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From The Apiary Notebook

Concerning Carbolic Acid Screens, Storing Empty Combs, and Queen Odor

By Clarence Tontz

Carbolic Acid Screens

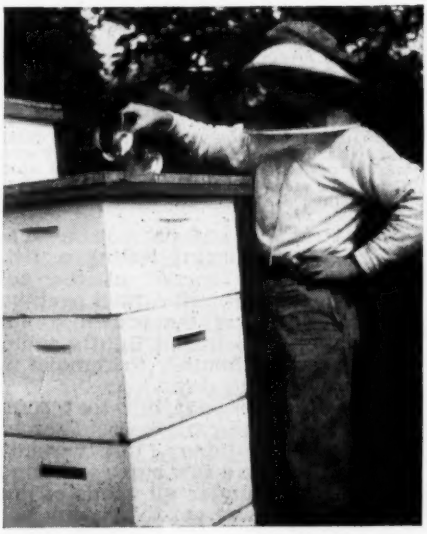
Although the use of carbolic acid screens in taking off honey is used to some extent, there are certain precautions one must observe in order to protect the bees and honey.

On hot days we have had bees drugged by fumes from the acid screens before they could leave the supers. Where no excluders were used, queens have been severely drugged.

During mid-August, 1940, we were taking off honey on a hot afternoon in Wisconsin. Loading honey on the truck, I noticed a large plump queen crawling aimlessly over the truck bed. Although she showed no marks of injury, she remained still and prostrate in my hand. Then she began to discharge eggs with difficulty. The eggs, which emerged from the passage in an upright position, first came singly, then in clusters. A short time later the queen was dead.

It appears probable that the tainting of honey by carbolic acid fumes occurs on extremely hot days with the screens being left on the hive too long.

When taking off honey with the weather generally too cool for the acid fumes to drive the bees down, we resorted to artificial heat at the Schultz Honey Farms. The metal covers of the acid screens were warmed up with a blow torch. One man with the torch kept about six screens hot by moving from one to the other continuously. Thus in spite of cool, cloudy days, we kept the extractors busy.



Ray Ransom warming up a metal-covered carbolic acid screen on a cool cloudy day with a blow torch.

Where one is stripping the hives down with little honey remaining in the supers, the use of bee escapes is advised.

Acid screens in ordinary weather must fit tightly to satisfactorily drive the bees down. Liquefy the phenol crystals in hot water and place some in a bottle fitted with a sprinkler such as is used for sprinkling clothes.

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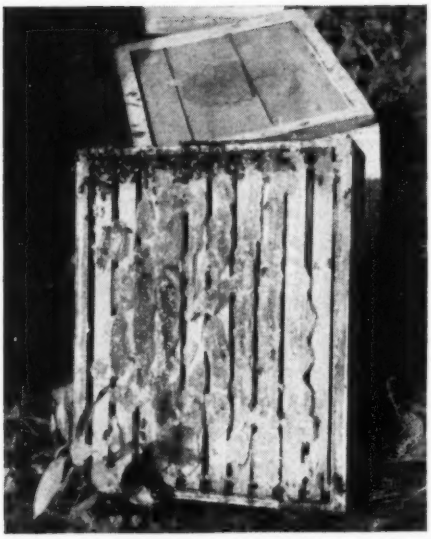


Burr comb, such as in this crowded super, may sometimes come in contact with a freshly-sprinkled acid screen, causing the honey to become tainted. In cases of this kind it is best to scrape the burr comb off, putting it in a pail, before placing on the acid screens. Acid screens built so that the bottom edges of the sides rest on the super rim instead of over-lapping, will eliminate the danger of burr comb honey coming in contact with the acid-soaked cloth. Have the sides of the acid screens at least two inches high.

On extremely hot days, some beekeepers recommend letting a little air in at one corner of the acid screens. A small nail driven part way in one corner of the screen so that the screen does not fit tightly should suffice; but remember to remove the nail on ordinary days.

We do not doubt but that sometimes the use of carbolic acid screens has damaged honey, but we have taken off quite a few supers of honey with screens under all kinds of conditions and have yet to see any honey tainted with carbolic acid fumes.

Protecting Empty Combs

After extracting empty combs, they should be treated for moths as soon as they are stored away. In the late dry summer of 1939 in Wisconsin hundreds of combs stored in a basement, with no damage in previous years, were riddled by the wax moth. The combs had been treated with Cyanogas, the fumes being circulated by means of an electric fan. However, the moths had evidently gotten well established in the combs before treatment, or else the fumes didn't penetrate into every stack. The wax moth costs beekeepers thousands of dollars every year in spite of repellents. The beekeeper has to keep on his toes because the weather variations sometimes aid the moth in tricking him.

Queen Odor

Does a queen have a "royal odor" different from her own bees? In the editorial note to the article, "Colony Odor In Queen Introduction" by Elmer G. Carr in June, 1941, Gleanings, it is mentioned that the odor of a queen is different from that of her bees.

Last summer the bees proved to me that this must be so. After requeening an apiary in which the failing queens were destroyed by crushing the head and thorax between the thumb and forefinger, I noticed that several bees persisted in flying close to and excitedly crawling over my hand and in between the fingers.

Thinking that perhaps the bees were attracted by honey on the hands, I rinsed them in water and continued the work of requeening. Still the bees, about a half dozen, fussed over my fingers like cats over catnip. From one apiary to the next they at once sought out my right hand.

Thoroughly annoyed with the pestering bees, I began to use my hive tool to destroy the condemned queens. It worked. The inquisitive bees went on about their business. Perhaps other beekeepers have noticed this behavior among bees.

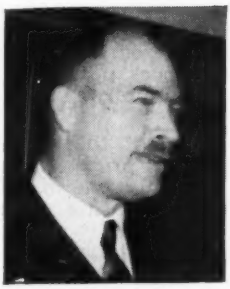
Stillwater, Oklahoma.

[This article by one of our best beekeepers, shows that some and perhaps most beekeepers can remove honey by the carbolic acid screen without giving it a taint. We have tasted some such honey that carries no detectable bad odor. But practically all the big honey packers and bakers contend that when heat is applied to such honey it brings out the carbolic odor.

Now, let us consider the other side. It is apparent that some producers by using pure carbolic acid crystals in blue bottle and using caution, can put out a honey that will not have a taint when heat is applied.

Again the acid plan enables a beekeeper to take off his honey on one trip when a bee escape plan might require two trips.

The danger in use of carbolic acid in removing the honey is right here: Some beekeepers are careless and will not follow directions. Their honey goes to market and is condemned. The fact is emblazoned in newspapers which would scare the public and we would have a repetition of the so-called Wiley lie, the echoes of which still follow. Gleanings feels that it is its duty to advise caution.—Ed.]



Lloyd C. Gardner

Pressure Honey Filters – Their Use and Abuse

By Lloyd C. Gardner

Manager of the Ohio Apiaries Cooperative Association, also a large commercial honey producer.

Practically all packers of honey visualized a new era with the first announcement that honey could be successfully filtered. Generally speaking that assumption is not far off for it has turned out that most of the important packers today filter their honey under pressure. The reasons are easily understood. First, consumer demand, and secondly, uniformity.

It has been said several times by those in authority that extracted honey begins to deteriorate the minute it is removed from the hives. The writer concurs with that statement since it is at the extractor that foreign material and excessive pollen grains are added to the extracted honey.

In these days of vitamins, claims have been made that it is in the pollen grains that the vitamin content of honey is to be found. However, it does not always suit the taste to consume extra doses of pollen grains. Cut a fresh comb of section honey and note the sparkling clarity of the honey. Note also the absence of pollen. There may be a cell or two but the rest of the honey has not been saturated with pollen as it often is when extracted. In addition to extra pollen grains, extracted honey can have, and probably does have, large amounts of dust incorporated into it.

Without doubt most of the honey produced would still be comb honey if it were not for the probability of granulation and the subsequent losses usually experienced from this condition when comb honey has to be held over for a considerable period. With extracted honey, of course, granulation is not a serious problem for it can be stored in containers in which it can be liquefied.

We of the Ohio Apiaries Co-operative Association were interested in filtering, primarily because we wanted to bring honey to the consumer in the best possible condition without removing any essential elements. We wanted to build honey consumption for our producers. We believed that the place to begin was with the honey we produced. But before we addopted pressure filtering we investigated all the arguments, both pro and con. Not only did we go into all the methods of ordinary filtering but also into the methods of decoloring and deflavoring. While we were not interested in deflavoring and decoloring, these processes came up during the course of our investigations. And let me say here that decoloring and deflavoring may be justified in the reclaiming of certain bitter and unpalatable honeys where it would mean all the difference between profitable production and a loss, because such honeys could then be used in industry. Certainly there is no reason to deflavor or decolor any of our honeys since there is ready sale for any type within the area where it is produced. Even if desired, the small packer could not use the method since certain laboratory requirements are necessary which are not a part of the small packer's equipment.

Decoloring and deflavoring of honey require the use of absorbents, such as Bentonite and activated charcoal. These are not to be confused with filter aids but they require a filter aid to remove them from the honey. These absorbents have incorporated with them certain acids and alkalies and with their use from 15% to 20% water must be added. The addition of water requires that equipment must be used to remove the water without scorching the product. Also instruments are needed for determining when the right amount of water has been removed. To remove the water requires a vacuum pan in which the syrup is boiled under vacuum. Ordinary filtering and the decoloring and deflavoring methods

have often been confused with the methods ordinarily used in the filtering of honey. Understanding the difference will clarify in the mind of the inexperienced the question which has been raised from time to time as to what constitutes filtering and whether or not filtering as employed by most packers actually damages honey.

Ordinary filtering is simply a good job of straining. Filter aid is employed to prevent clogging of the filter pad for particles of pollen, dust and other matter flow to the pad and soon seal it completely. The filter aid builds up with it maintaining a porous strainer through which the honey can flow easily.

A silicate is used, often called diatomaceous earth. It is the ground shell remains of tiny plants or animals. (There is disagreement as to which they are.) By its nature the material is not soluble in honey.

Two types of pads are used. Some prefer a special cloth while others use a paper sheet. This paper is not unlike that used for straining milk. A glass of water poured on it will run through almost as fast as it is poured out of the glass.

It was first recommended that ½ of 1% filter aid was the proper amount to use. However, experience has shown that the amount of filter aid must be determined by the condition of the honey. If samples show that an excessive amount of pollen and other matter is present in the honey to be filtered, a larger amount of filter aid will have to be used than found in honey which is free from such material. A water white honey will not require the use of any filter aid while honey from a capping-melter will have to have added even a larger amount of filter aid than the ½ of 1%. Ordinarily clean honey, in our experience, may require as small an amount as 100th of 1% filter aid.

When we started packing, we sent out hundreds of samples of our filtered honey. Many of these were sent direct to known consumers of extracted honey. We requested that they send in their comments and while many of these were not so much interested in "strained" honey and preferred honey in the comb, yet they were again sold on extracted honey for table consumption. Many of these replies were to the effect that this honey tasted almost like comb honey. This was exactly what we wanted to hear, for we had that very thought in mind to filter the honey to restore it to as nearly its condition when the bees put it into the combs, as it is humanly possible to do.

Without doubt one of the greatest dangers to honey in processing is in the heating. Possibly one of the most dangerous of the heating methods is the water bath for liquefying honey in 60-pound cans, since the usual procedure is to leave the honey in the heating water until all of it in the cans has reached desired bottling heat. With such a method, some of the honey is subjected to excessive heat for entirely too long a period while the remainder in the can is liquefying. The safest method is one employing a heating system where the liquefied honey can flow away from the heat as fast as it is liquefied. At our plant one of the largest of the latter type of liquefiers is in use. This unit will hold 150 60-pound cans and requires the entire attention of one man. The honey flowing from this unit is barely luke warm before it reaches the "flash" heater, from which it passes to the filter.

The flash heater we use has incorporated within it 100 feet of tinned copper tubing which is 1" in diameter. The honey enters at the bottom of the coil and is pumped upward through the top outlet. A check thermometer is placed in the line near the top outlet to insure careful control of the heat. Such a heater can be arranged so that the coil is surrounded by water constantly and evenly heated by special heating arrangements; or, direct steam can be used. However, if steam is used, it should be from a low pressure boiler or "saturated" steam. It should be applied to the coil by a specially constructed attachment whereby the steam is forced through a series of very small holes so as to be equally distributed the entire height of the coil.

Following a run of honey to be filtered, we may start at the stock room where the cans of granulated honey are stored. We next come to the liquefier from where it flows into the liquefied honey storage. Next it is pumped into the mixing tank where the filter aid is added from which it is pumped through the flash heater to the filter and then into the bottling tank.

Contrary to the opinion of some, honey may be filtered at a tempera-

ture as low as 120° F. Recently we have found that the temperature may be as low as 130° F. for bottled honey provided the honey has been fully liquefied, that is, that no granulation or crystals are present before the honey reaches the filter. Honey bottled at this temperature will remain liquid as long as honey bottled at 160° F.

The pressure at the filter will depend upon how clean the honey is. White to water white honey will start at a pressure less than 2 pounds. The final pressure may not run to more than 10 pounds for an entire run of 6,000 to 10,000 pounds. The pressure depends upon how much clogging of the filter pad is occurring during the run. The pump pressure will normally be twice that of the filter pressure because of the friction in the lines and the lift through the coil.

There has been some question as to the advisability of producers employing pressure filters. To this we reply that unless the producer is a packer also, he cannot afford to add a filter to his equipment. In the first place he would not likely receive premium enough for his honey to stand the cost of filtering. Secondly, he ordinarily does not have the facilities to install a pressure filter and operate it efficiently. Lastly, the pressure filter is not a producer's unit but belongs solely in the honey packing plant.

Summing up, our conclusions are:

First, that the pressure filter with a filter aid known as diatomaceous earth does not remove essential elements in honey and pressure filtered honey has an important place in the packing and marketing of honey;

Second, that it is a definite step forward in honey packing;

Third, that filtered honey is definitely superior to ordinary unfiltered honey in that it is free of foreign matter;

Fourth, that filtered honey does definitely meet with the approval of the consumer;

Fifth, that it is the only method by which extracted honey can be restored to its condition when the bees stored it.

Delaware, Ohio.

"Look, ma, bees . . . bees for victory!"

Drones as Honey Getters

By J. A. Schlotthauer

[This article was received early in 1936 and should have been used before this. It was submitted to Mel Pritchard, an outstanding authority on queen-rearing, with over forty years' experience in breeding queens, for his comments. At the close of this article will be found Mr. Pritchard's views in his letter dated March 23, 1936. Mr. Pritchard passed on in December, 1942.—Editor.]

The drone, when off duty, has earned for himself the axiom of indolence and slothfulness and this theory has been so thoroughly accepted that his reputation is surrounded by derision and contempt for his easy lot in life. Beekeepers go to unusual ends to exterminate the existent drones and do everything possible to prevent his propagation. From an economic standpoint this appears to be good business.

Most queen breeders are guilty of neglect in appreciating the value of the drone who controls 50% of the influence in "up grading".

Fabulous prices have been paid for breeder queens and the globe hunted over for something better. The offspring daughters of these queens have been permitted to mate with such drones as happen along on flight when the virgin issues forth on her wedding flight. The result of such mating is a 50% stepdown instead of "up grading". Mostly the offspring from such random mating is classified and offered for sale as purely mated, the color only being the index on which to base such classification. Such breeding has long since been proven unsatisfactory and the abnormal method of artificial insemination has been resorted to and great progress has been promised in surmounting the set laws of heredity. That this method of mating is doomed to disappointment and failure is self-evident for the simple reason that all symptoms and sensations so necessary and essential in mating are lost and the queen as well as the drone is subjected to torture and injury. It is argued that such procedure is proven successful by horse breeders. In mass production such procedure is tolerable but certainly not permissable where unusual features in sports are attempted to be established in "up grading". The fact is lost sight of that nature has surrounded animal life with certain elements which are essential in perpetuating the race. The affection, passion, ecstacy, and urge to reproduce is stimulated by association between male and female. In artificial insemination these factors are lost entirely.

That the laws of heredity are most firmly established has been proven by the attempts of breeders to establish the degree of prepotency in a sire. Could this be made possible it would become an easy matter to breed for those qualities most desired to be perfected in a strain.

Dr. Raymond Pearl, in January 1936, Harpers, says in his article on "Biology and Human Progress", "Genes are almost incredibly stable and resistant to alteration in the natural and usual circumstance of life. For something over fifteen years there has been going on in my laboratory a continuous experiment designed to test this point in a simple direct way. This experiment has now included over 300 successive generations—perhaps the longest bit of controlled breeding ever carried out, with the results in each successive generation carefully observed and precisely recorded. Allowing 30 years as a round figure for the average duration of a human generation, the time equivalent in human reproduction would be 9,000 years—considerably longer than the total span of man's even dimly recorded history. The objective of this experiment with the fruit fly Drosophila has been to see whether a simple Mendelian ratio involving but one character would or could be altered in the passage of time by such natural forces as selection, different systems of breeding (such, for example, as that called 'grading up' by livestock breeders), and wide alterations of the environment nearly up to the limits of the organism's ability to go on living at all. The net result of the experiment has been to show that the gene involved has preserved its initial characteristics unaltered."

In the light of such facts it is evident that too much has been taken for granted in queen-breeding and breeders must look with greater interest to the drone on the same basis as the queen. A 25% handicap is in favor of the bee breeder over the livestock breeder because of the fact

that the drone has no father and he must assume his proper position before "grading up" can be realized.

By the very nature of the bee it is impossible to obtain matings in confinement and unwise to force mating by artificial means. To properly permit nature to take its course as well as control desired selection of parent stock, isolation becomes imperative. The desert offers a splendid field for such purpose. When virgins, in the absence of known drones, remain infertile it is conclusive proof that isolation is perfect and selected drones may then be added to the mating yard to be mated by future queens. In no other way is it possible to rear purely mated queens with any degree of assurance of "grading up" for those much desired qualities as: longer tongue, stronger and greater wing spread, a larger honey sac, greater visibility, keener scent stamina, disease resistance, non-swarming, color and gentleness, last but most important of all, the degree of power of prepotency for a queen to transmit her good qualities.

It is true that many unnatural conditions exist on the desert and these must be artificially supplied and all these at great expense and time. Such procedure will give the drone the opportunity to prove himself as a honey getter.

Tehachapi, Calif.

[I think Mr. Schlotthauer's article is an extra good one, right to the point. We have been using the most promising queens that came from the nuclei yard to requeen our cell building colonies for several years. These are colonies that produce most of our drones, and I believe that the improvement we have made comes from this as much, if not more, than the selection of breeding queens.

What interests me most in Mr. Schlotthauer's article is what he has to say about artificial insemination. I could never see where this could ever be of much help to the improvement of bees, because it could not very well be continued long enough to establish characteristics, even if such were found in what might be called freaks, which is the origin of many of the improvements in plant and animal life.

The statement of Dr. Pearl, that 300 successive generations of the fruit fly failed to show any established changes would indicate that we must combine desirable characteristics of different strains rather than try to improve any one strain.

He gives reasons why artificial insemination can not be made a success. These are new to me but may be well founded. They should start some discussion.—Mel Pritchard.]

ANCIENT BEEKEEPING

Beekeepers in a Dutch village catching a swarm. After an engraving by Stradanus, dated 1556.—Photo from Bettmann Archive.

One can be proud of canning such as this.—Courtesy Ball Bros. Co.

Let's Can With Honey

Mrs. Benj. Nielsen

"We are urged to can, can, can—but can't get enough sugar" is a commonly heard plaint nowadays. This situation, however, will not in the least bother the beekeeping clan. Some of us will supplement the available ration of sugar with nature's finest sweet, using half sugar and half honey; others who are thoroughly "sold" on the honey flavor will use honey exclusively. From fruit juices to pickles, no sugar has been used in the Nielsen kitchen for many years. So we are not concerned in the least over a tiny canning sugar ration. In fact, when invited to the homes of friends who do not use honey in canning and preserving, we actually miss that inimitably fine flavor characteristic of all honey canned products.

Why don't you try canning the honey way this year? If you like honey at all, you are sure to be delighted with its use in canning, preserving and pickling. Long after the present necessity for substitution has passed you may still use honey. There are, I'll admit, some persons who just don't like honey "straight or in any combination" and, of course, these sales-resistant folks won't like it in canning (if they know it has been used!)

There is nothing complicated in using honey for canning. It may be substituted in any of your favorite recipes if in making the substitution you keep in mind that, cup for cup, honey is 25 percent sweeter than sugar and that the honey flavor intensifies with time. Whether preparing a syrup, preserving or pickling, do use a large kettle, for honey has a tendency to foam in the heating process and goes over the top in no time at all. It will be necessary to skim a bit now and then and here's a time and temper saving tip: use a clean vegetable brush as a skimming tool. The foam clings to the bristles and a large kettle can be skimmed in less time than it takes to tell. Then let hot water run through the bristles and the brush is cleaned in a jiffy.

Yes indeed, the only worry honey-minded canners will have is obtaining enough produce to put in their jars—or enough jars to fill. So round up all of your glass jars and inspect them. Those with nicks or surface cracks should be discarded, unless usable for pickles, jams and jellies. Many coffee and mayonnaise jars will be pressed into use. Lids will be available for those odd width tops, we are told. Let's make this the biggest and best canning season ever!

Preparing Honey Syrups

Thin syrup—use three cups water to ¾ cup honey. Bring to boil in a large kettle and skim off foam.

Medium syrup—use 2 cups water to ¾ cup honey and proceed as above.

Heavy syrup—use 1 cup water to ¾ cup honey and proceed as above.

Thin syrup is used for small soft fruits; peaches, berries, sweet cherries, etc. Medium syrup is used on sour berries, acid fruits, such as cherries, gooseberries, rhubarb, etc.

After the honey syrup has been prepared any method—open kettle, cold pack, oven canning or pressure cooker may be followed, observing with care the basic principles of good canning procedure.

Here are some favorites from the Nielsen kitchen:

Honey Grape Juice

Wash fully ripened grapes. Drain well. Stem sound grapes being careful not to mash. Place 1 cup of grapes and ¾ to 1 cup of warmed honey in a hot freshly sterilized quart jar. Fill jar to overflowing with boiling water. Seal at once. Invert, then stand upright, repeating this process frequently to insure dissolving and mixing of the honey. When cool, wrap each jar in brown paper (paper bags are handy) or store in a dark place. Avoid sunlight which will cause grapes to turn an undesirable bluish color and develop a flat taste. Juice will be ready for use in two or three weeks.

Spiced Plum Butter

Wash plums, cover with cold water and cook over low fire until soft. Run through a sieve. Measure the pulp and add one-half cup of honey to each cup of pulp. To each four cups of pulp allow one-half teaspoon of whole cloves and 1 stick of cinnamon bark, broken in small pieces. Place the spices in a cheesecloth bag during the cooking and remove before pouring the butter into jars. Cook the mixture slowly until thick and clear. Pour into sterilized jars and seal.

Honey Tomato Catsup

One-half peck tomatoes (use fully ripe sound ones), 2 medium-sized onions, thinly sliced, 3 red peppers, 2 tablespoons salt, 2 teaspoons celery salt, 2 teaspoons ground mustard, 1 tablespoon whole allspice, 1 tablespoon cinnamon, 1 teaspoon paprika, ⅓ cup honey and 1 pint vinegar.

Quarter tomatoes. Combine with onions and pepper and cook together until soft. Press mixture through a sieve and measure the pulp. This should measure 4 quarts. Add salt and spices. Place whole spices in a bag during the cooking and remove before pouring the catsup into bottles. Cook rapidly for 1 hour. Rapid cooking preserves the bright red color. Add honey and vinegar and cook until thick. Pour into sterilized bottles or jars and seal at once.

Honey Peach Jelly

Three cups of peach juice, 2½ cups honey, ½ cup water and 1 box of dry pectin. Crush about 3½ pounds of peaches, after removing pits but not the skins. Add water and bring to boiling point. Cover and simmer 5 minutes. Squeeze through jelly bag or several thicknesses of cheesecloth. Place in large kettle (to prevent boiling over, as honey jelly has a tendency to foam quite a bit), add the dry pectin, stirring vigorously. Place over heat and bring to boiling point. Add the honey and continue boiling until the jelly sheets from spoon. Pour into freshly sterilized glasses. Paraffin.

Honey Crabapple Jelly

Four cups of juice, 4 cups of honey, juice of 1 lemon and 1 box of powdered pectin. Remove stem and blossom ends from 4 pounds of crabapples and cut in small pieces. Do not core or peel. Add 3 cups of water and simmer gently until tender enough to crush easily. Mash and simmer 5 minutes longer. Strain, add lemon juice and measure juice. Add dry pectin, stirring vigorously. Place over flame and bring to boiling point. Add honey and boil briskly to jelly stage, skim and pour into freshly sterilized glasses. Paraffin.

Honey Apple Marmalade

Four cups apple sauce, unsweetened, 2 tablespoons lemon juice, 1½ cups honey and ½ bottle fruit pectin.

Pare and slice apples. Add just enough water to prevent sticking. Cover and cook until apples are soft. Add lemon juice and grated rind,

(Continued on page 495)

All of your jars should be filled this year.—Courtesy Ball Bros. Co.

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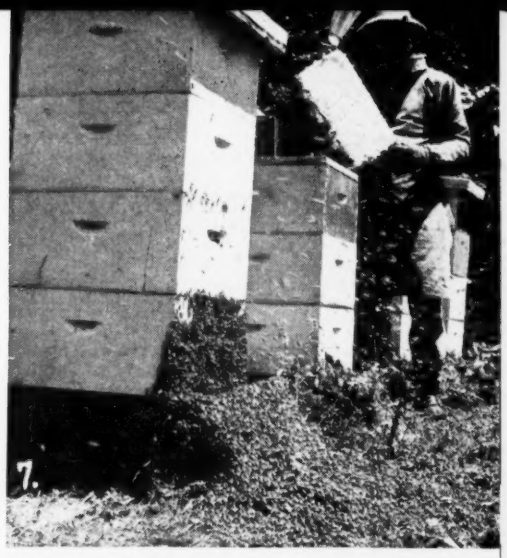
Extracting Time in New York

By William L. Coggshall

No. 1. A small load of empty supers is being taken off the truck in the background. This is a small apiary of about forty colonies located in Central New York.



No. 2. Empty supers from the truck are wheeled around in the yard, making them quickly available to replace full ones taken off and so the colonies can be shut up to prevent the start of robbing.

No. 3. The top hive of the colony in the foreground of No. 2 has been set off. It is the upper brood-nest but now full of honey instead of brood. The next four are supers of honey. In left background is a stack of empty supers with hive cover on top to prevent robbing. If robbing is prevalent it is not practical to take wet combs to an apiary previous to removal of the honey. During this particular season almost no robbing occurred.

No. 4. Supers of honey are set off on a cover in front of the colony and the upper brood-nest restored to the colony, but above the excluder to prevent brood-rearing and consequent use of the honey from the combs; said honey is intended for winter stores.

No. 5. Presence of capped burr comb indicates these supers are capped solid, and they are, with water white clover honey.

No. 6. The acid pad is now being lowered into place, whereupon the bees head for the bottom of the stack and fresh air. Two empty supers have been placed on the colony to the rear.

No. 7. Bees driven out of such a stack of supers are jarred from the cover and make their way up the alighting-board into the hives. Streaks in the picture are caused by flying bees. Occasional colonies of bees refuse to leave the supers and then a bee brush (once known as the Coggshall brush) is employed to remove them from the combs of honey.

No. 8. Spaced eight to the extracting super, combs are extra thick when capped solid, and deep uncapping secures the extra wax now urgently needed.

No. 9. The load of honey is on the truck and the empty supers are on the colonies. This may be seen by comparing this picture with No. 1. This yard is now ready for any additional clover honey, or the buckwheat flow if one materializes. Covers of the colonies are tipped ahead slightly to permit bees cleaning up drops of honey on inside of covers occurring when supers of honey are stacked on them.

XUM

Iowa Produces Honey as Well as Tall Corn

By Rolland B. Moore

Nearly a million pounds of honey were produced near Harlan, Iowa, in 1941. This sounds incredible but that is the record for bees owned by the Old Taylor Honey Company whose headquarters are at Chandler, Oklahoma. When I called at the plant for information about honey production in Oklahoma, I came away with information regarding honey in Iowa instead. Although the company headquarters are in Chandler, Oklahama, the bees are in the vicinity of Harlan, Iowa.

Mr. Taylor, founder of the Old Taylor Company, has been in the honey business from the age of fourteen. Starting with just 7 stands of bees, he now has 4,500 stands. He didn't expect the business he started as a boy with the 7 stands of bees would grow to where his production would be nearly a million pounds of honey per year.

"Why don't you have bees in Oklahoma?" I asked Mr. Taylor. He replied, "A strong swarm of bees in Oklahoma will produce only about 40 or 50 pounds of honey a year. In Iowa that same swarm would produce from 80 to a 100 pounds of clear, light, fine flavored honey that would practically all grade number one."

"What do you consider the main source of honey around Harlan?" I asked.

Mr. Frank Arnold, a permanent employee of the Chandler plant, came in to the office just then and answered my questions:

"We consider sweet clover as the best source of honey. Then there is fruit bloom such as apples, cherries, tame and wild grapes, plums, and other fruit. We also have haw trees, locust and many other flowering trees. Bees get some honey from white clover. In the early spring the bees work on soft maple and other trees."

"Mr. Taylor just told me the bees at Harlan produced nearly a million pounds of honey in one season," I said.

Mr. Arnold replied, "Yes, that is correct. Of course, we do sell some honey in Iowa but most of it is sold from here. The honey is extracted at our Harlan plant and put into 60-pound tin containers and brought down here where it is prepared for sale, through retailers."

"Do you have anything new in extracting equipment?" I asked. Mr. Arnold replied, "All our extractors are run by electricity. The uncapping knives are hollow, steam heated, and are kept razor sharp. While the man is uncapping one comb, he is reaching for another one. The cappings contain a certain amount of honey some of which formerly was wasted. Now we press this honey out and it is marketed as second grade honey which is sold to bakers, candy manufacturers, and other lines of business using honey in their products."

Miss Ruth T. Taylor, sister of the founder of the business, came in from the office with a handful of pictures taken at the company bee yard near Harlan. I handed one of the pictures to Mr. Arnold and asked him what the picture was and he said, "That is a picture of a bee yard taken last fall after we had packed for winter."

"How do you pack bees?" I asked.

He described the method of packing bees for winter, which is as follows: "Our hive stands are 42 inches long. During the summer a hive of bees is placed near each end which leaves about 5 inches between the two hives.

"For winter the two hives are placed toward the center of the hive stand and as close together as possible. A wooden form is used which when set around the two hives leaves four inches of space entirely around them. A band of 36 inch waterproof paper is placed inside of the form. This band must be exactly the same size as the inside of the form. This band of paper is stuffed full of straw. About five inches of straw is rounded up on top of the hives. The wooden form is now unhooked and removed.

"The four corners of the band are folded and pinned with number 7 nails. Next a roof of the same kind of 36 inch paper is put over all and tied with binder twine.

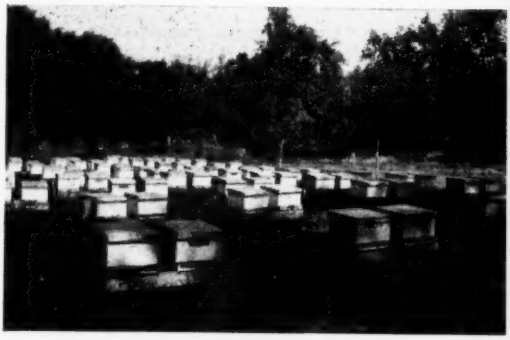
"The bees make their exit through a tunnel formed by a 16 inch 1 x 2 which is nailed on the protruding side rails of the bottom board before being packed."

"Do you have much winter loss?" I

asked remembering the cold winters when I lived in Iowa and my own bee losses.

"We have so little loss we scarcely consider we have any," Mr. Arnold replied.

"How many stands do you usually have to a bee yard?" I asked. I had always heard bee yards referred to as apiaries but as the Taylors and Mr. Arnold called them "yards", I did too.



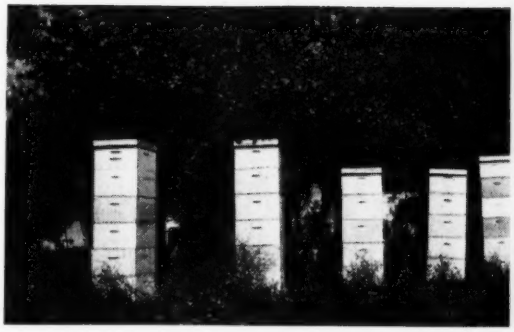
A typical Old Taylor Honey Company yard in the spring before the honey flow really gets under way.

"Our bee yards have from 75 to 100 stands in them," Mr. Arnold replied.

"Well, if the company has 4,500 stands of bees in the vicinity of Harlan, I should think that about every farm around Harlan has an Old Taylor bee yard on it," I remarked.

Mr. Arnold laughed and said, "Well, you are not far wrong about that. Our farthest yard out from Harlan is 25 miles."

"How are the farmers remunerated for the space your yards occupy? Do you pay them a cash rental, a percentage of the honey taken, or part of the swarm increase?" I asked.



Iowa produces tall corn and tall bee stands as well. Each super holds from thirty to thirty-five pounds of honey. Count the supers. Do bees pay?

"We keep the farmers supplied with honey though many of them would be glad to have the bees without pay for they make the farm crops better by pollinating fruit, vegetable, and clover blossoms."

Mr. Arnold then asked me if I would like to visit the plant. We first went through a room in which were stacks of knocked-down heavy pasteboard cartons in which are packed the filled jars of honey going out to the retailers.

Bee stands all packed ready for winter.

From this stock room we went out to the shipping room. Here was a large metal tank which had steam pipes running through it. Mr. Arnold told me when honey was brought down from Harlan, it came in 60-pound tin containers. Four thousand five hundred pounds of hon-

The new plant of the Old Taylor Company at Harlan, Iowa. The building at extreme right is the old plant and is used for storage now. Truck to the right is loaded with supers full of honey. Truck to the left has just unloaded.

ey in these cans were placed at one time in the metal tank and turned upside down after the caps were removed. Steam was turned on, which liquefied the honey. Care must be taken not to use too much heat or the color of the honey is injured. The honey then ran through a pipe into another tank. From there it is strained through heavy silk bags, after which it is ready to be run into jars and marketed.

I asked if sugar rationing had caused any difference in the honey price.

"Did it!" Mr. Arnold exclaimed. "It made a very substantial raise in price. The government set a base price of 12c a pound to the producer."

Noticing several large containers full of melted up beeswax, I asked about the price and was told the government has a priority on all beeswax and is paying around 40 cents a pound for it now. The government is using huge quantities of it in war work.

My attention was called to thousands of honey supers which were stacked to the ceiling. I asked why there were so many supers on hand in the plant when all extracting was done up at Harlan. I was told that in nearly all of the glass jars of honey offered for sale by the Old Taylor Company a small piece of comb honey is put in because it makes a more attractive looking jar. Tnen, too many customers seem to be assured the honey is pure and has not been adulterated when it has a piece of comb in it.

We then went in to another storage room in which were thousands of bright tin cans which hold 60-pounds of extracted honey and are filled at the Harlan plant and brought south. The cans were all washed and ready to go back to the producing plant in Iowa to be filled again this season. I looked inside one of the cans and found it as bright as new silver.

Mr. Arnold asked me if I had noticed the huge tank at the back end of the building. I told him I had. He said the city water at Chandler is so hard they could not use it for can washing, so they catch the rain water that falls on the roof of the building and store it in the tank for washing honey cans only.

Several men were waiting nearby for time to go to work and Mr. Arnold took me over and introduced me to each one, saying each of the men spend the spring, summer and fall working at the Harlan plant or in servicing the bee yards. In the winter they return to work in the Chandler plant.

"How do you control swarming?" I asked.

"The best way is to clip the wings of the queens with a small pair of scissors which are made for that purpose," the man replied.

I then asked, "Is there always just one queen to a swarm?"

"No, not always. Last year a swarm came out in which I found five virgin queens," he replied.

"When a swarm comes out and hangs on a tree or bush, where do you look for the queen?" I asked.

"At the top of the mass of bees." he replied.

"Do you ever find more than one queen cell in a hive and where do you find queen cells usually? How can you tell the difference between a queen cell and other cells?" I then asked.

"Yes, I have found frequently more than one queen cell in a hive. In fact, last year I found a hive that had 20 queen cells. It is easy to locate the queen cells as they are usually found hanging at the bottom of a comb and are much larger than an ordinary cell," the man replied.

Mr. Arnold suggested we return to the office. On our way, he showed me a novel way the company has to interest the public in honey production. It was a transparent hive the company places in a front window next to the sidewalk. A square wooden pipe or trough with the lower end entering the hive at the top and the upper end about ten feet above the side walk and open to the outside, allows the bees to come and go in their quest for honey. Mr. Arnold told me people will stand for minutes at a time watching the bees at work.

After I left the company office to go to my car, a man I took to be a farmer drove up and stopped next to my car and got out.

"Do you live around here?" I asked him.

"I live about seven miles from here on a farm," he replied.

"I was over to the honey company office just now." I said. "Do you think it pays a farmer to keep bees?"

"I certainly do! I have ten stands on my place and am glad of it. Aside from the honey they make during

(Continued on page 501)

A Lesson from the Poultry Man

By M. J. Rowland

The prevention of preparation for swarming by the bees, is probably one of the major controllable factors in securing a maximum crop of honey. It is generally conceded that as soon as a colony of bees has contracted the desire to swarm, its interest in nectar gathering and in brood production lessens.

Actual swarming may be prevented, after cell building has commenced, by several different methods of manipulation but this is too late to avoid a lower yield of honey and a reduction in egg laying.

Giving sufficient ventilation and plenty of room, both in the brood chamber and in the supers, lowers the percentage of colonies that commence swarm preparations but it is far from being 100% successful.

Many theories as to the cause of swarming have been advanced. Such theories as, too many young bees in the brood chamber, a queen that is too old, lack of room and ventilation, etc., all have an influence over bee behavior and should be taken into consideration by the beekeeper. They are, however, only secondary causes. The one basic fact, that it is the natural method of increase, remains. Swarming is the only way by which bees under natural conditions, can replace colony losses and perpetuate the race.

Colony manipulation does not greatly affect the natural desire to increase the number of colonies in existence. How, then, must the beekeeper attack this problem? And why has he not made more headway in solving it?

An object lesson may be learned from the poultry man. His hens laid eggs but that alone would not replace the loss of stock from natural causes. The hens had to sit on the eggs and rear the chickens. This meant low egg production. To overcome this loss the poultry keeper first invented the incubater for the artificial increase of his stock. This, however, did not prevent the hens from wanting to sit. Neither would manipulation of the poultry house, nests, etc., stop the hens from wasting time in being broody for a few weeks. His success in defeating this natural desire and the increased individual production of eggs was obtained through selective breeding for a non-setting strain of hens. In this he has gained many years' start over the beekeeper. The beekeeper is, of course, at a considerable handicap as he has such little control over the actual matings but that is no reason why he should not work with a view towards selective breeding, and more credit will be due to him if he succeeds in developing a non-swarming strain.

A large percentage of the colonies owned by the "part-time" beekeeper are natural swarms headed by a queen of a swarming strain. Other colonies are artificial swarms made by dividing a colony which was preparing to swarm and was allowed to rear a queen from their own brood. This policy naturally produces a queen of a swarming strain. This method suits Nature fine because she prefers many small colonies distributed over a wide area so that all flowers will have an equal chance of being pollinated. It does not, however, suit the demands of the beekeeper who wants large honey crops.

It is the general opinion that the colonies of a swarming strain of bees usually rear more drones than do those of a non-swarming strain. This results in more drones flying from colonies that are headed by undesirable queens than from the non-swarming stock and increases the chances of the young queen mating with a drone from an unprofitable colony.

The best and the only way for the beekeeper to permanently eliminate the undesirable traits of his stock is to breed them out. Some of these traits may be checked and kept under partial control by management but this affects only the colony treated. The results or effects of this manipulation do not extend into another season nor do they affect any off-springs of the treated colony. However, until the beekeeper has developed a perfect or near perfect strain, he must continue to make certain manipulations. Ultimate and final success can be reached only through selective breeding.

In the June, 1933, issue of Gleanings a correspondent writes, "A search through the reports of the different government experiment stations, records for some years fails to

(Continued on page 494)

From the Field of Experience

GOOD BROOD COMBS

By E. S. Miller

What constitutes a good brood comb, and how may good combs be provided? These are questions that should interest every practical honey producer.

A perfect comb may be defined as a straight comb containing only worker cells and filling all of the space within the frame. A good comb should be at least 95 per cent perfect, that is, no more than 5 per cent of the frame space should be vacant or occupied by drone cells. Moreover, it should not be warped or stretched.

In the average apiary probably not more than five per cent of the combs would meet these specifications. It is chiefly because beekeepers as a rule endeavor to get their combs drawn out in the lower brood chamber. Writers sometimes advise alternating drawn combs with foundation as a means of swarm control. This practice of inserting foundation in the lower brood chamber seldom results in the production of good combs. In Demareeing, drawn combs should always be used as it is practically impossible to get good results by using foundation for this purpose. When double brood chambers are used it is difficult even to maintain good combs in the lower story unless the two sections of the hive are reversed from time to time.

How then may one secure good combs? The most practical way is to have them drawn out above the brood during the honey flow, in which case they will be built entirely down to the bottom bars, eliminating the half-inch open space below the comb as well as the gnawed-off corners. In order to allow for expansion, foundation should not reach entirely down to the bottom. Thus, as the combs are drawn they are fastened to the wood without buckling.

In the production of comb honey, fairly good combs may be obtained by hiving a strong swarm on foundation, provided an empty super rim is placed underneath and left for a few days until the combs become attached to the bottom bars. This also helps to prevent stretching of the foundation, since the weight of the cluster is suspended from the frames and the bees work up gradually in drawing out the foundation.

It may be asked, why insist on perfect or nearly perfect combs? First, if a considerable area within the frame is not usable, the capacity of the hive for brood-rearing is limited. Secondly, open spaces are later utilized in rearing drones. Thirdly, irregular combs and open spaces constitute an invitation for the bees to start queen cells. It is quite evident that more swarming occurs where imperfect combs are tolerated.

What to do with defective combs is a question sometimes asked. It is doubtful whether they should even be allowed in the supers, as they are very apt to gravitate back to the brood chambers and thus become a liability rather than an asset. It is better to render them into wax at the earliest opportunity.

Valparaiso, Indiana.

[We have found that in the majority of combs in the brood chamber the bees will eventually gnaw a space of around ½ inch directly above the bottom bar of the frame.—Editor.]

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THE ISOLATED QUEEN MATING STATION IS PRACTICAL

By Wayne Keller

Among the bees used for honey production this year were some that showed certain hereditary characteristics that I wished to propagate. A great number of pure drones provided in the home yard did not insure purely mated queens, as there were other colonies two or three miles away. From a breeder colony I took a frame of drone brood and two frames of female larvae and eggs together with about five pounds of gentle bees from two sources. This queenless colony was taken six miles away from the nearest bee yard. When the queen cells were ready to be distributed, nuclei were made from the cell-rearing colony. The queens mated on schedule, and the appearance of their progeny indicates that they mated to drones of the isolated yard.

It is not enough to have queens mate to drones of the same race. They should mate to the best drones of the same race, even if they are from the same colony. After the desired characteristics have been fixed in a strain by inbreeding, they may be

combined with other characteristics by outbreeding. The isolated yard gives the beekeeper the only practical method of controlling the drone parentage.

The equipment necessary for maintaining the yard is listed: a screen bottomed hive body with detachable screen cover, an empty hive, a number of twin mating nuclei with screened ventilation holes, and a canvas inner cover fastened to the division board.

The most satisfactory way to operate the equipment is to follow a schedule. When about half of the drone brood is sealed, start the queen to laying in new worker comb. Take only gentle bees to the isolated yard for all queen-rearing purposes. From a super above queen excluder take five frames covered with bees. These with two frames of fertile eggs, two of drone brood, and one of pollen fill the screened hive body used for hauling. After all of the frames of combs are crowded to the side, the last one is nailed in place to keep the frames from knocking together. At the isolated station remove the combs of bees and place in the empty hive. When the queen cells are ripe, make up twin nuclei with the bees of the queen-rearing colony. Arrange the nuclei hives in a circle equal distances from the old stand. Additional gentle bees and combs with a small patch of brood may be used to form nuclei. The two combs of queen cells are left until the last. With a sharp knife cut the cells out and lay inside the empty hive out of the sun and wind. The last cell on each comb need not be cut out. Distribute the cells to the nuclei by pushing them into the comb.

When both queens in a nucleus hive have mated and are laying, they are clipped or marked. After fastening the frames so they can't shift while hauling and uncovering the screened ventilation hole, the entrance may be closed tightly and the cover nailed in place. The nuclei are then taken to the home yard. Here they must be watched closely to prevent being killed by robbers. From supers in an outyard are taken bees for adding to these nuclei before hazarding introduction to full colonies. These outyard bees taken from supers are not overly queen conscious. If they are jolted enough and fed while being hauled, they are not killed by the nucleus bees. They should be run in through the nucleus entrance in late evening and not bothered for two days. These strange bees do not rob the nucleus nor ball the queen if the above directions are followed. When the nucleus has been built up until it covers three frames, it is lifted out and united to a full colony by the paper method. In a week after the two have united the queen is placed in the main brood nest to destroy queen cells there.

Lakeside, Nebr.

[It seems likely the cell-building colony is removed at the time the nuclei are formed.—Editor.]

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STRAIN YOUR BEESWAX UPWARD

By Louis A. Kunkel

Now that the emphasis is on beeswax as a vital war necessity, it behooves us to save all the beeswax possible. In the hope of being of help, at least to the many small beekeepers, I will explain how I render small amounts of wax. For the remains in a Brand melter, or those black lumps from your Peterson melter, or other wax accumulations, this method will prove of value.

Add water to the wax in a suitable container, and heat it until it is all melted. It should be stirred now and then. When it is all melted, slide the container back on the stove or otherwise reduce the heat. By allowing to stand a few minutes the wax will clear and become quiet. Now is the time to start dipping.

Now here are the things you will need: Several molds to receive the liquid wax. It is best if these are a bit larger at the top than at the bottom, so the hardened wax cakes will be easily removed. An ordinary enameled ten cent soup ladle, also a round kitchen strainer with rounded bottom. This should be a little larger than the ladle, and should have a handle.

Here's how it's done: Sink the strainer into the liquid wax about an inch or so. With the ladle dip the wax from inside the strainer as it flows in. The wax is strained upward and the refuse stays outside the strainer. Continue until you cannot obtain any more. After cooling, you will have several nice cakes of wax and the remainder in the wax tank should be dried and sent to your nearest wax-rendering plant.

Just a word of caution: **Don't ever leave wax on the stove without attention! It is dangerous!**

Melrose, Minn.

ONE MAN'S OPINION

It is really with thanksgiving that we learn of the continued common sense being used by the beekeeping industry in the matter of honey prices and production.

While it is human to grab while the grabbing is good, the policy of holding prices within reason can only react to the ultimate benefit of honey and all who are connected with it. Things could be better, but it looks as though we will get a fairly sensible price. The future will bring changes, but there can be no bursting of the balloon. You can't fall far unless you are way up.

The entry of the Heinz Company into the honey packing field, in "this man's opinion" is a constructive step. A compact, aggressive advertising and merchandising unit will be able to accomplish far more than the beekeepers. And don't take that as a slam at the American Honey Institute either. Those people are making miracles with the rotten support that the beekeepers are giving them. I would not be surprised if they had something to do with the interest of the Heinz Company. That is totally conjecture on my part. I have no way of knowing.

Farmers and fruit growers are finding that bees have their good points as well as those in their rear ends. In a farm bulletin, recently received, in a discussion on a spraying schedule, is the statement in capital letters—"DO NOT SPRAY IF BEES ARE WORKING THE BLOSSOMS."

Of course it would have been better if the instructions were to the effect that the spray should not be used if bees would subsequently work the blossoms while the poison was still potent, but this is progress. I never saw emphasis on the subject in previous farm bulletins for my neighborhood.

It is surprising how many otherwise intelligent fruit growers don't appreciate the value of bees in the blossoms. A school teacher near my apiary is quite a side line specialist in raspberries, and in the past has hinted that he should be entitled to free honey because my bees work his blossoms. That is a fact, not just an excuse to get something for nothing. I explained the facts of life to him, and suggested that I bill him for pollination.

This is a heartbreaking year for yours truly. In ten years of beekeeping I have never seen such pasturage. And my bees are building up on the flow instead of putting up honey. A tough winter, followed by a lack of attention because of the gasoline shortage, and a crazy season with some plants late and others early, has caused the unprecedented situation of loads of nectar and only a few field bees to gather it.

Here I sit with utter strangers reminding me that they are old friends and therefore entitled to loads of honey when the crop comes in, and the chances are that the crop will hardly satisfy my year after year customers. What a life!

I never could dope out how these fellows with hundreds of colonies were able to find and clip or paint queens, and still go through so many colonies in a day. Maybe I have found the answer. A recent article on management suggests dismounting the hive completely and using spare inner covers to keep the bodies apart. Then, by examining first the body in which the queen most likely is, much valuable time is saved. Furthermore, before looking over a frame pulled from the hive, glance over the surface of the next frame while it is still in the hive. Then, if she is not there, look over the frame in your hand at an angle. Her Majesty's profile seems to be seen more easily. It works. I just got through killing the queens in four colonies that I wanted to requeen for one reason or another, and it took me only about twenty minutes for the four colonies. In three cases, she was spotted on the frame in the hive. In the fourth, her side elevation stuck out like a sore thumb, when viewed from an angle.

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WAR CALL FOR BEESWAX

Here's a Call to Everybody Who Keeps Bees

Our military forces use a lot of beeswax right on the fighting fronts. Beeswax goes into a coating to protect and lubricate shells, and into protective coatings for our fighting planes. It is also used in plane models, and in dental work for the soldiers and sailors. Some is used on thread for sewing shoes for soldiers and sailors. Some beeswax is used to waterproof canvas because beeswax is not attacked by mildew, and so is more satisfactory for treating canvas than is paraffin. And bees-

wax is used in waxing cables and pulleys, in adhesive tapes, varnishes, and polishes, and in many other things including medicines and ointments.

The U. S. Department of Agriculture reports that, all told, our fighting forces use upwards of a million pounds of beeswax a year.

Up to the war, we imported more than half our beeswax from other countries. With the shortage of shipping space, we can no longer bring in as much wax as we need. We have to depend more on beekeepers here at home.

To meet this big demand for beeswax, the Department is calling on all beekeepers to save every bit of beeswax they can. Cull poor combs out of the hives, gather up all scraps of wax. No matter if it's just a pound or two, it will help.

Sell this wax to the dealer from whom you get beekeeping supplies or to some other buyer.—U. S. Department of Agriculture.

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LETTER FROM A BEE SHIPPER

It Helps to Clarify a Trying Situation That has Existed this Season

By Morley Pettit

Bee shippers have deserved a great deal of patience from buyers this year, and in most cases it has been freely given.

Very few shippers were prepared for the avalanche of letters, cards and telegrams which continued to deluge them for the first five months of the year. I believe most men try to do their own office work with the help of their wives, besides keeping going the care of colonies, rearing of queens, shipping packages, and this year sawing lumber and building new packages to try to fill as many orders as possible, some time some how.

After January, February, and March of this barage of mail, and when we got into the heavy shipping and the mail only increased, and the telegrams and special delivery letters came daily in greater numbers, we become sort of numb to outside appeal and let them pile up, being careful to book or return all money and letting the rest wait.

Each one out there at the circumference thought surely the man at the center of the whirlpool might, if he was any business man, at least answer a letter or a telegram. But when the shipper comes home from a hard day's work to find twenty or thirty such letters and telegrams, and only his own index fingers to answer them, and the telegraph office probably closed, and another day coming to-morrow, could you blame him for throwing up his hands and concentrating on the most essential things?

Perhaps some will say, why not hire a stenographer for the season? The answer is, they are all gone to Washington, or have husbands and babies.

As is the old Southern custom, we had winter until Easter, and you know how late that was this year. So at the most critical time, queens enough for the packages already ordered were not to be had and shipping had to be slowed down to suit. Then there was the question of whether orders previously booked should wait while replacements were sent where bad arrival was reported. I may be wrong but my decision has been that we do our best in shipping an order and turn to the next order on the book. It is not fair to penalize the next customer by making him wait to replace shipping losses for which neither he nor we are responsible. In fact, I wonder if buyers realize that **bee shippers are the only ones who guarantee safe arrival,** and I see no particular reason why they should. When the express company accepts a shipment in good order it should be between them and the buyer.

Our shipping losses in 1942 were only 3% of total shipments. I believe the percentage is less this year. Normally I would send replacements promptly, but this year it just could not be done.

Express Companies Have Done Well

Considering congested traffic conditions I think the express companies have done an excellent job in delivering the bees with so little loss and delay. But the point of symptoms to determine cause of loss comes up again and I regret that **sometimes** the buyer fails to co-operate. For instance, the manager of a company which buys many thousands of packages reported a loss and said "the loss was due I think entirely to bad leaks from feeder cans. Sugar syrup was over all the packages and even the floor of the car was covered with syrup."

Now every shipper, and I think every experienced buyer, knows that if you pour syrup down over a cage of live bees they will clean it up as

fast as it would ever run from machine-sealed cans with three small pin holes.

But if the bees were smothered by the express company the first night on the trip, the jarring might cause syrup to continue to flow down over the dead bees and cause the mess he described. If the man in his position would read the signs and be ready to testify to what they indicated, that some bad management by the express messengers had killed the bees at the beginning of the trip, the poor guarantor might have a chance of collecting.

I hope you will publish this letter as soon as possible as there are many Northern buyers who do not understand why bee shippers are "such poor business men" as to neglect to even answer letters and telegrams.

I feel that by 1944 most shippers will be better organized to care for a flood of orders and as just news and not advertising I might say we have already booked over a thousand packages for 1944. Let that be a tip to those who know they are going to buy, not to put it off till everybody is booked up.

Some of us could not think quick enough or see far enough ahead to have advertising changed to stop another month of agony after we were sold out.

This is hastily written because I am trying to wade through a big pile of letters which require some answer and have for several weeks.

Tifton, Georgia.

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SAVE THE WAX

By Geo. Rehman

When using a hot plate knife, such as the Multiplex Foundation Fastener, to attach foundation to sections do not wipe the excess wax off of the knife on to a dirty cloth or shake the wax off on to the honey house floor. Set the knife edge for an instant on a clean piece of marble or heavy glass; then scrape this wax, when cool, each morning or noon, into your can for wax scrapings.

North Baltimore, Ohio.

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SAVE DOLLARS WITH CARE

By C. B. Gooderham
Dominion Apiarist, Ottawa, Canada

The annual profit from beekeeping is less than it should be by many thousands of dollars because of brood diseases.

Those who have never had disease in their apiaries cannot appreciate the destruction it can cause once it is introduced. No apiary is immune, therefore every beekeeper should be on guard against it. While inspection for disease and the control of it rests with the beekeeping department of each province it is practically impossible for the inspectors to visit every apiary each year, especially under present conditions. The situation is further compromised by the many beginners who know little about beekeeping and less about disease. Every beekeeper is urged to become his own inspector and to treat by approved methods every case of disease he finds, and to report every other of which he may be suspicious to the provincial apiarst.

Experienced beekeepers will, no doubt, know the symptoms of the most serious diseases, and be able to diagnose them correctly, and also to apply the necessary treatment. Many now keeping bees, however, are unable to do this; in fact, some do not even know the difference between diseased and healthy brood. Brood may die from several causes and it is often impossible to determine the cause without a microscopical examination of the remains. The Bee Division, Central Experimental Farm, Ottawa, or the apiarist of the province in which the beekeeper resides will make such examinations free of charge if specimens of dead brood are sent them. First of all, learn what healthy brood looks like, then if any deviation from this appearance is found send specimens for examination and identification. Uncapped brood when healthy are small, plump, glistening white grubs curled up in the base of each cell. At first they are only tiny specks lying on the floor of the cell. They grow so fast that in a few days they may nearly fill it, but they do not change color. When it is capped over the cappings may be flat or slightly raised and of approximately the same color as the surrounding comb. They will also be intact with no pin holes through them. The brood beneath will still be white in color until after it has taken on the shape of the adult bee when it begins to assume the coloring of the latter. Any variation from the above description must be regarded with suspicion and if there is any doubt regarding the nature of the trouble, send samples to the addresses already given. The

best way to send specimens is to smear the dead larvae on a piece of waxed paper and enclose it in an envelope or to enclose a small piece of the comb containing the affected larvae in a cardboard box. Do not use tin or glass containers.

Ottawa, Canada.

[Beekeepers in U. S. A. should send samples of brood to Jas. I. Hambleton, Beltsville, Maryland, for diagnosis.— Ed.]

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TWO SCALE HIVES COMPARED

By A. S. Wurz

I kept a scale record of a winter colony and a package colony for 56 days. The record shows at a glance that it paid to winter bees in Alberta, especially now when the beemen on this side of the border is not sure of getting package bees due to cage material shortage in the South.

It is also interesting to note that the "wintered colony" was stronger at the start of the honey flow and, therefore, gained nearly a pound or two more each day from July 31st to Aug. 6th when the old queen in the wintered hive was being replaced. This resulted in the increased gains made by the package bees, at the close of the honey flow. Had the weather continued favorable no doubt the package bees would have caught up with and even passed the winter colony, but this did not materialize. The record shows that a 32-lb. gain over the package bees would amount to a sizeable figure for the larger beekeeper. Actual surplus obtained from the package colony was 280 pounds, wintered over colony, 312 pounds.

One scale hive at right

This was a very strong package colony. Others obtained with it on April 13, 1942, would not have come near this mark as queen supersedure was very high. From 34 packages with queens, 32 replaced their queens and the result was colonies with a small working force of bees at the start of the honey flow. Consequently they produced only 130 lbs. of extracted honey per colony.

It is also noteworthy that the biggest gains were made when the weather was moderately warm. Hot sultry weather usually preceded rain and caused many field bees to loiter at the entrances.

	PACKAGE COL.		WINTERED COL.
Date	Gain	Weather	Gain
July 1	5	Hot	6
" 2	5	Hot	6
" 3	7	Hot	8
" 4	5	Hot	6
" 5	5	Hot	7
" 6	5	Hot	6
" 7	10	Warm	13
" 8	8	Warm	9
" 9	4	Fair	5
" 10	7	Windy	8
" 11	9	Warm	10
" 12	9	Rain	10
" 13	9	Rain	10
" 14	9	Warm	10
" 15	15	Warm	16
" 16	9	Warm	11
" 17	9	Rain	11
" 18	3	Cool	4
" 19	13	Warm	14
" 20	15	Warm	17
" 21	16	Warm	17
" 22	16	Warm	17
" 23	7	Hot	10
" 24	11	Warm	12
" 25	11	Rain	12
" 26	2	Hot	3
" 27	2	Rain	3
" 28	6	Cool	8
" 29	5	Fair	7
" 30	4	Fair	5
" 31	8	Warm	9
Aug. 1	4	Cool	5
" 2	13	Warm	15
" 3	13	Warm	14
" 4	13	Warm	14
" 5	9	Warm	9
" 6	12	Warm	11
" 7	9	Warm	8
" 8	12	Warm	11
" 9	9	Warm	8
" 10	10	Warm	10
" 11	6	Warm	5
" 12	6	Rain	5
" 13	6	Cloudy	5
" 14	11	Warm	10
" 15	12	Warm	10
" 16	8	Warm	7
" 17	10	Warm	8
" 18	9	Warm	8
" 19	9	Warm	8
" 20	4	Hot	3
" 21	4	Rain	3
" 22	4	Cool	3
" 23	12	Warm	10
" 24		Rain	10
" 25		Rain	10
Total Gain	398	Total Gain	421

Rockyford, Alta. Can.

BEES ATTACK ENEMY IN V-FORMATION

By P. L. Fisher

Several times I have seen bees attacking birds near the hives. To see them you should be between the birds and the sun with the sun at your back. Morning or evening is the best time to observe this.

The first time I noticed the bees attacking a bird was one day when I was near the hive and a swallow dived at me and shrieked. As it rose and paused a moment before swooping again I noticed three bees closing in on the swallow. The bees flew in V-formation, one ahead and two behind. The swallow swooped again and as it paused again before swooping the three bees were right after it.

Another time an Arkansas kingbird was sitting on a stake in the garden. I watched it, as I expected it was catching the bees returning to the hives. It flew up to the top of the trees and three bees were after it in V-formation. I laughed as it looked as if the bird had been treed by the bees. The kingbird did not like it. The feathers on the top and back of his head stood up and it turned its head and snapped at the bees.

Ninga, Man.

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THE QUEEN AND WORKER BEE, A SEX DIVIDED

By M. J. Rowland

There are two statements often made within beekeeping circles which are misleading if not actually erroneous. One is that "the queen-bee is the only complete or perfect female in the hive" and the other is that "worker bees are undeveloped females". The fact is that both are partially developed females, neither one being complete nor perfect in herself.

Some of the organs of the female develop in the queen but other organs and most of the feminine characteristics are found in the worker-bee.

Fully developed females are, in one way or another, able to care for their progeny. Some, such as mammals, provide food from glands within their body. Others, like most birds and solitary bees, provide a more or less unprocessed food. The instinct of the cabbage butterfly prompts her to lay the eggs where her progeny can enjoy the biggest meal with the least effort and loss of time, that is, right on the cabbage.

The queen of the honey-bee colony cannot perform all the functions necessary for continuing the existence of the species, which are allotted to the female in other forms of life. She cannot provide for her larvae except indirectly by laying eggs that develop into workers to supply the missing elements. Even this she cannot do alone. Workers must be present before the queen can commence to lay. She lacks essential female organs and instinct and is therefore but a partly developed female. The worker is the other part.

The overies are developed in the queen and she lays the eggs but that alone is not sufficient to continue the existence of her tribe. The worker, with her instinct and wax-producing glands, must be present to build the nest and then to incubate the eggs. The larvae require a processed food or milk and it is in the worker that these processing or mammary-glands are developed.

It is the worker only that develops the maternal instincts. She is the one who fusses over the young, feeds and fondles it and defends it, at the cost of her own life if necessary. The queens show no more maternal instinct than does an incubator though for all that she is a necessary part of the colony.

In the social bee we have an instance of the female elements and duties being divided between two individuals but neither one is a fully developed female herself.

This does not seem so extraordinary when we realize that in some forms of life, the common earth, or fish-worm, being a well known example, all of both male and female elements are present in each individual. It is only in the higher forms where they are separated. The social bee has gone a step farther and subdivided the work of one sex.

Kapuskasing, Ontario, Canada.

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SECOND GLANCES

By C. M. Isaacson

Twelve hundred colonies operated by one man single - handed! That would be a terrific task anywhere, and Mr. Hannegan's determination to increase, even in the face of misfortune suffered during the Pearl Harbor attack, is all the more remarkable. More power to him—may success reward his efforts.

If, as Mr. Stewart suggests, bees were native to this country, another long-held belief will have been proven erroneous. That brings up the question—how much do we really know? The article gives an interesting account of bees and beeswax in our early history (page 389).

That colony strength is affected by the color of the alighting-boards is probably a new idea to many of us—and one to take note of (page 390). That bees do acquire a close knowledge of their entrance many beekeepers can testify to—when Demareeing, I have often seen many bees trying to enter the old brood chamber (now raised above) for several days after the treatment. And if dark colors are desirable, perhaps the increasingly common use of creosote for bottom - boards and stands has an advantage that we had not realized. But as regards drifting, is not too regular arrangement of colonies within an apiary one of the main causes? I have always found it so.

"Taking Off the Honey" (page 393). The time of year has arrived when we all are in hopes of doing just that, and the more of it, the better. Those pictures of the Coggshall yards show some real yields—the kind we all hope we will have this summer.

"Refreshingly Cold" (page 394). Up to a few days ago, the season in this locality has been too cool to be refreshing to beekeepers, what with constant feeding and worries over colonies reaching proper strength for the honey flow. But now we are at last having really warm weather, so Mrs. Neilsen's recipes appear just at the right time. They will help to defeat many a "heat spell" (page 394).

That an inflationary expansion of the bee industry would be bad for all is quite evident, and government agencies are doing well in attempting to prevent such a boom. And the work of the Bee Culture Laboratories is of inestimable value to the industry—Mr. Dacy's article performs a real service in showing clearly some of the many developments accomplished or being worked out. But the comment on royal jelly as a super growth producer for the higher animals and man, makes one shudder just a bit. It seems to be going a bit too far from the scheme of things, and might result in something monstrous and unnatural. The work on pollen has brought out many facts previously little regarded—that it may be the cause back of the healing properties of honey for one. The value of developing easily recognizable strains of bees can easily be seen, as also the advice to place close attention to location of apiaries. All in all, the article will repay many a careful reading (page 396).

We all hope Jessie Anderson and her sister have real success in their beekeeping efforts. If their beekeeping is as good as her articles are readable, they surely will. Her article is right, bees do "grow" on one, almost without our being aware of it, until suddenly we find ourselves in love with all that they mean (page 400).

"One Man's Opinion" (page 402). The author is having a lot of fun, and manages to give sensible advice each month. "Know your bees". We will never know all there is to know about them, but it is good advice to follow.

I don't believe Mr. Kramer's observations will be ridiculed by any sensible person. We all like to speculate on matters such as he discusses. And incidentally, his method of having packages and liberating the queen immediately is good, and coming more and more into favor (page 403).

The smoke method of requeening (page 404) is not a new one, and if carefully done, it does work. The main danger, I have found to be that of harming the queen by use of too much smoke. Quite a large percentage will be superseded later, if one does not do the work just right.

Editor Root has, I believe, brought out the most important reason why bees prefer the upper entrance in the spring—because it is closest to the brood area (page 405). As to having a large enough opening, if the "shingle entrance" is used (a strip of shingle between the two hive bodies) any size entrance desired can be secured simply by regulating the depth to which the shingle strip is inserted.

That item on page 407 is correct. A surprising amount of beeswax can be secured simply by saving odd bits of wax, burr comb, etc. It pays—and the wax is badly needed now.

Don't forget the American Honey Institute this season. Remember, it has been a big factor in bringing about the present public awareness as to honey. Let's keep the good work going.

Middle River, Minnesota.

XUM

From North, East, West and South

NORTHERN CALIFORNIA, July 4

Weather: In the northern half of California, we can furnish every kind of weather found in the United States. During June we had several thunder showers in the far north and a good snow storm the last half of June. The light snow flurries in the mountains interfere with the bees for only a short time. The sun comes out and the snow is gone. Bees are moved into the mountains for the early spring flowers, then out to the later flow of orange and alfalfa. From the oranges, they were moved out in June for alfalfa. At this time bees are working on sage, alfalfa, and beans. Wild buckwheat and star thistle look promising.

The eucalyptus flow was over in June and extraction finished. Reports show a crop of 60 to 100 pounds per colony.

Condition of Bees: Bees are generally ready for the next crop. Some feeding had to be done in the Sacramento area. Weaker colonies have been united. Shortage of help and the cool winds of June have been discouraging to many beekeepers but the first week of July sees improved conditions and renewed interest.

A curious situation has developed in California. The demand for honey is so great that packers are going far outside the State to buy honey to meet their requirements. Every packer is now talking in terms of packing 3, 6, 10, and even 20 million pounds of honey. There are just not enough million of pounds to add up to their figures. Packers in the East are frantic in their efforts to secure honey for their trade. For many years our State Association has tried to assist in this line. To the 10 or 15 requests we receive in our mail per week for the names and addresses of beekeepers who have honey for sale, we can only reply giving names of producers. We do not hear from more than one out of ten that they got the amount of honey wanted. Some are offering inducements beyond the regulations of OPA. Then too, OPA states that if a beekeeper sells honey to a buyer who had to move it by freight, the beekeeper must furnish the cans, cases, labor, and materials, as well as transportation to the railroad car. This has turned into a definite barricade against the shipment of honey by rail, for if the beekeeper can sell all of his honey right at his warehouse door in 60-pound tins without cases, why should he sell to another and furnish the cases and expense of loading it on the car? So another amendment will have to be issued or a new order supersede an old one.

The OPA is apparently going ahead with their regional meetings, for which we are glad to see some of the larger buyers giving Dr. J. E. Eckert, of the University of California, credit for proposing. It has always seemed to us that the proper approach to such regulations as the OPA need to enforce, is an educational one; at least to the end of giving the parties interested an opportunity of presenting their cases and of discussing proposed regulations. It has always seemed to us that the greatest need of our beekeepers was better educational advantages.—Cary W. Hartman, Oakland, Calif.

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SOUTHERN CALIFORNIA, July 3

Weather: Today, in Southern California, is most delightful. Since our last letter we have had a few warm days but most of the time it has been cool and comfortable, making good blankets very acceptable at night. This is favorable for nectar plants.

Honey Crop: There is no reason for changing our former crop estimate, now that the orange honey is in the cans, unless it would be to lower it. It seems to be from 30 to 60 pounds per colony with a few apiaries running higher. Reports on the black sage, our other early honey producer, vary so greatly that it is hard to estimate, but as a total the yield will not be up to early expectations. Reports from the white sage and wild buckwheat are not en-

couraging. While the wild buckwheat is yielding and a few beekeepers have begun extracting the estimated yield is low. Some beekeepers say possibly 30 pounds per colony. Just why this should be we fail to understand. The absence of spring rain may in a measure account for it. Of course, barring any extremely hot weather the wild buckwheat should continue to yield nectar until late August.

Market: Most beekeepers who had early honey have disposed of it and buyers are calling for more. All are quoting ceiling prices and will take all honey produced. That California can use all the honey she produces and even more there is little doubt.

Beeswax is in demand at ceiling prices.

Miscellaneous: Have we been too boastful in our reports of honey production in Southern California or have some of our readers read with over-optimistic glasses? This we have been lead to assume from letters we have received from eastern buyers. Different brokers have told us that they never found it as hard to buy honey. Many of these buy for eastern markets and many of the beekeepers feel that Southern California packers should have the preference so that the honey can be sold and consumed here near home.

There was considerable swarming in many apiaries in the spring but beekeepers report very few queenless as most colonies got queens and are now again in good shape and ready to gather late honey.

Several thousand acres in Southern California, of fair to good bee pasturage, have been burned over since our last letter. This is the season of the year when every precaution should be exercised to avoid fire.

Several apiaries have changed hands since the orange honey has been taken off. While the price is above that of a few years ago still it is not near up to the suggestion of W. Z. Hutchinson who, when asked what a colony of bees should sell for, replied, "I would suggest one dollar for each cent that honey is selling for". Not a bad suggestion as we look back over the years. What other investment could a fellow make in the spring of the year with the probability of his getting his investment back the same season?—L. L. Andrews, Corona, Calif.

TEXAS, July 5

Conditions: The weather throughout June was very favorable to bees and beekeepers. If the many reports that come from beekeepers reaching from the Red River to the Rio Grande and from East Texas to the Pecos are correct, this year Texas produces a uniformly normal crop of honey. Some places report low yields and others enormous ones. The peculiar thing is that this honey crop was unexpected. The state as a whole suffered through the first four months of the year with extreme drought, and then, as beekeepers and farmers had given up hopes of a honey or any other crop without any rain, a honey flow commenced. Then came rains and the honey flow continued. In the southern part of the state, the honey flows are over, due to the coming of hot weather, but in the northern and northwest parts, reports show that a good flow is still on. One of the peculiarities that came out in this flow is that all beekeepers are asking, "Where did it come from?" The honey is good, but it certainly cannot be labeled anything except "Texas honey". In one yard, the flavor of horsemint seems to predominate, while in the next yard it will be mesquite, and probably the next five or six yards the mixture will be such that no one could state definitely that it is any thing but a very fine-flavored honey.

Market: The beekeepers of Texas are very lucky this year. The price of honey is excellent and the demand far exceeds the supply. This is true not only of honey but of beeswax. Beekeepers everywhere have cleaned up the odds and ends of wax around their yards and honey houses, so that the wax production for this year will appear high.

Miscellaneous: Wherever there is hope for an increase, those having bees will make it. The demand for live bees in colonies is great but no one has bees for sale. It looks now as though next spring the number of colonies to go into honey production will be a good increase over that for 1943. Reports indicate more beekeepers preparing for honey production than for the production of pound packages. The rains which commenced the latter part of May and

are continuing have brought all plant life back to normal, and if normal rainfall continues the rest of this year, the prospects for next year will be better than for this year. Plants will be in better shape, and there will be a larger number of colonies of bees in shape to take care of the honey crop when it comes in the spring in 1944.—H. B. Parks, San Antonio, Texas.

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NEBRASKA, July 3

Weather: In the spring little moisture was received until June. Then rain fell almost every day for two weeks. Unseasonably cool weather kept the bees in their hives most of the time during dandelion and fruit bloom. The latter part of June proved very dry with strong winds and several days over 100 degrees in temperature. As this is being written a fine gentle two-inch rain is soaking into the thirsty earth.

Condition of Colonies: Strength of colonies is only fair. The cold weather in June seemed to demoralize the bees. At least we place the blame on this backward weather, for although bees were amply supplied with stimulating sugar syrup, they still are inclined to loaf. Those beekeepers who were fortunate to receive their package bees at the desired time have them built up nicely, and the colonies are starting to store surplus.

Crop Prospects: Prospects are favorable for a good crop. Plants were still in fairly good condition and should improve with this fine rain. Grasshoppers, however, are quite numerous and already are making inroads on the clovers. If rains continue the additional growth may partially offset the grasshopper damage. The fall honey plant, smartweed or heartsease, is showing up well and should provide good winter stores for the bees. In protected places bloom has already started.

Market: The market has been exceptionally good for the past year and a half. Now that radio broadcasts predict the lifting of sugar rationing, demand undoubtedly will slow down. However, we hope to retain some of the new customers we have made during the sugar-rationing period. During that time some people have used honey in cookery who never did before and have grown to like it.

Beeswax: The expected discontinuance of sugar rationing will not affect the demand for beeswax, so every beekeeper should save even the smallest particle and melt up all poor combs. Bees are doing their part in this war as they have in previous ones, though not exactly in the same manner. In ancient days beehives were placed on the tops of the high walls surrounding the beleaguered cities, then pushed over on the besieging enemy. Nowadays the beeswax these industrious little insects produce is badly needed by the Army and Navy.—Benj. Nielsen, Aurora, Nebr.

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FLORIDA, July 6

Weather: The first two weeks of June were unusually hot, but the past ten days or two weeks the weather has been a little cooler. Lately most sections of the state have been getting plenty of rain. This has resulted in cooler weather.

Honey Crops: Taking the state as a whole, the honey crops have been below normal this year. In some sections of the citrus belt, the beekeepers gathered a fair crop of orange honey, while in other sections the orange flow was almost a complete failure. The tupelo honey crop in west Florida was about 70% of normal, due to bad weather during the flow. The gallberry and saw palmetto flows were spotty. Black mangrove and partridge pea are just coming in, therefore, it is too early to report what these crops will be.

Bees: Bees are in good condition in all sections of the state. Considerable moving to black mangrove and partridge pea locations has been done. Because of a large demand for package bees and queens this year, some beekeepers report difficulty in getting queens for requeening.

Honey Market: All honey that has been produced has been sold at ceiling prices. The fact that there has been such a demand for honey in bulk may result in a shortage of honey for local trade. Many beekeepers who have in the past put their honey up in small packages and furnished the local stores have sold in bulk this year.—Robt. E. Foster, Gainesville, Florida.

MASSACHUSETTS, July 4

Weather: While March and April were cold and rain fell nearly every day in April, May was normal, and June warmer than usual. Right now a good rain would be beneficial as clover is suffering from lack of moisture in the soil. Very little pollen was gathered during April, and brood-rearing, except in the stronger colonies, was behind schedule. This made the preparation of colonies for orchard pollination very difficult. Package bees arriving here during the period of April 10 to 25 were hived upon arrival in rain and snow. This is not pleasant for the bees or beekeeper but if drawn combs are available with some honey and pollen it is better than waiting for fine weather which may not come.

Condition of Bees: Strong overwintered colonies have developed satisfactorily, and were ready for the honey flows and have stored a normal amount of honey to date. Package colonies given a frame or two of sealed brood during the second week built up rapidly and some are nearly equal to average wintered-over colonies and have stored a shallow super of honey. Supersedure was heavy in two strains of bees the writer purchased this spring, while those from a third strain were uniformly good with no supersedure. Not all strains of bees are good producers under our conditions, and it is only by the trial method that it is possible to find breeders in the South who can supply bees that will forge ahead and build up into productive colonies. Under a system of out-yard management where colonies are visited only every two or three weeks, supersedure is a serious matter.

Where the colonies have been provided with sufficient storage and brood-rearing space there has been no swarming. No queen excluders have been used on my colonies to date but will be used where necessary later on in the season. There is no question regarding the fact that where queens are confined to one brood chamber in the heavy brood-rearing season that swarming conditions are provoked. Two brood chambers with the excluder above may be satisfactory, but the bees go into the supers much more freely during the early part of the season at least, if there is nothing to impede their progress. Drawn frames spaced eight to a super tend to keep the queens below.

Crop Prospects: Clover has yielded well to date but has suffered from recent hot dry weather. Heartsease, milkweed, lithrum, and other wild plants appear in excellent condition owing to their deeper root systems. Sumac is blooming heavily this season and yields honey of excellent quality. All this is followed by goldenrod and fall aster. While these last two failed to yield here last year due to some unaccountable reasons, the average yield is generally considerable. There are practically three months of producing weather ahead and undoubtedly we will obtain a a good crop from something. This is what makes beekeeping interesting.

Market: Customers are waiting for the first extracting which will take place in about two weeks. Most beekeepers here in the state will have difficulty in supplying their retail demand.

Miscellaneous: The writer has succeeded in securing one swarm so far this season, and had to climb to the top of an apple tree to take it down. It was an afterswarm that flew over my home apiary late one evening, and made to cluster by throwing water into the flight of bees. It consisted of less than two pounds of bees and was more fun than profit, but had a good queen. When looking through July Gleanings, Editor Deyell's picture of his swarm made mine look like nothing at all. I also received the smallest queenless package shipment this last week. I received seven bees in a queen cage without any queen. The breeder forgot to include a queen, but sent me two queens when informed of his error. This never happened to me before and I looked into the queen cage for five or ten minutes before I could believe my eyes.—R. E. Newell, Holliston, Mass.

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WESTERN MONTANA, June 28

Weather: For the past two months the weather has been rain and more rain with cool cloudy weather in between. Clovers are in fine condition. Frosts have been frequent, even of late.

Condition of Bees: Winter loss was light. Colonies came through strong in bees and with a fair amount of honey. Brood-rearing is below nor-

mal in about half the yards, with as usual, an excess of pollen. Seldom has it been our experience to contend with swarming and feeding at the same time. Close attention has been required to control swarming.

Miscellaneous: Two years ago we located a yard on alkali ground and did not expect grass to bother around the entrances but now we have an abundance of grass and clover all over that yard. No doubt dead bees are a source of considerable value to land for some distance from the yard. I intended to save dead bees when cleaning bottoms and use them in the garden for soil enrichment.

We welcome J. F. Norgren back to our Gleanings family. Having experienced war in its fury we know what he is talking about. Surely the hearts of fathers and mothers are with their sons more than ever in these days of battles. The roar of machine guns and artillery heard to the four corners of the earth is strong evidence that man's efforts to rule are a failure and until we allow the PRINCE OF PEACE to rule our lives and nations of the world, there will be no lasting peace.

Our honey is so thick that the pitcher has to be turned upside down to pour it. My wife tried diluting it with about 15% percent water. Our daughter came home from high school at noon and sat down to the dinner table, got a good supply of food on her plate, then turned the honey pitcher upside down over her bread. Kersplash!—every thing on that plate got sweetened considerably. We suggest a warning be pasted on the honey pitcher when such a change is made.—T. J. Rowe, Arlee, Montana.

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ONTARIO, July 6

Weather: During the past four weeks the weather, with the exception of three or four days, has been cooler than usual, with sufficient rain to keep all vegetation green.

Honey flow: From Ottawa in the East, the Georgian Bay district in the Northwest, and counties bordering on Lake Erie in the South, we have reports that the honey flow started on the same date, June 18th. In the four counties where we have bees the flow has been steady but never heavy, except on a few days when temperatures were too low for nectar secretion. Today, July 6th, in our own apiaries, strong colonies have an average of two supers of honey stored. While some have reported swarming, we have known definitely of only two swarms in our 27 apiaries. Possibly a few colonies might have swarmed but the number is small.

Quality of honey will be very fine judging by its appearance in the combs. As clover still looks good we are hoping for a fair crop. At some apiaries we will have to do some close watching and be on the job to prevent the clover honey from being mixed with buckwheat. Unfortunately some buckwheat has been sown much too early to suit our convenience.

Demand for honey is the greatest we have ever experienced, and we anticipate a busy time when we start extracting. We have definitely decided to refuse to fill all sorts of containers such as were brought to us last year—they ranged from everything in glass and tin to earthen crocks. We will fill only standard honey pails or 70-pound cans. Customers can either take the honey in these containers or leave it alone, and we have no doubt as to how they will decide the question.

Miscellaneous: Mention was made in my last report about a 12 - acre field of Ladino clover close to one of our apiaries. As the Dominion Apiarist had expressed some doubt as to its value as a nectar producer, based on the fact the corollas are deeper than in alsike, alfalfa, and other clovers except the red variety, we made two visits to this field to observe how the bees were working on Ladino. A field of alsike adjoins the Ladino, and my observation would lead me to the conclusion that more bees were on the Ladino than on the alsike, when numbers of blossoms on each were taken into consideration. The Ladino, really a giant white clover similar to the common "white Dutch", is, in this field at least, a very shy bloomer and alsike bloom would out-number the Ladino ten to one. On the other hand, from a beekeeper's standpoint, the Ladino should be valuable as it blossoms a long time, and this field is as fresh as ever while alsike will soon be over.

Speaking of honey plants: Frank Pellett in the last issue of the A. B. J.

mentioned the milk vetches tested in his plots as not being too promising for nectar production. While I know nothing of the different varieties of the vetch family, we have a large acreage of vetch or wild tares, growing in the suburbs of Toronto and rapidly spreading to other localities. It is a very fine honey plant. It is not a bad weed and grows in meadows and waste places and if cut for hay, it makes fine forage for stock. The honey from this plant is very white and of a very fine flavor, according to my taste.

Well, the ceiling on honey has now been clamped down with a vengeance, and restrictions on sales both retail and wholesale are rigid indeed. Effective June 21st, Order 286 supersedes Order 182, and I understand that all beekeepers in Canada are receiving a copy of this Order. Frankly I do not like some of the clauses in this Order, but as we can do nothing about it, what is the use of complaining. So we will just make the best of it and try to obey the rulings. All I have spoken to since the order was issued seem to feel as I do about it except members of the Co-operative, and they certainly have no cause to find fault with Order 286. It is a real life saver to that institution—no doubt about that, for as matters stood under Order 186, little honey would have found its way to the organization. Whether we like the provisions of this Order or not, we feel so thankful for being assured of at least a partial crop of good honey already, that we refuse to have a grouch regarding such a minor matter as disposing of the honey.—J. L. Byer, Markham, Ontario.

From Days of Yore

This picture of J. M. Hambaugh, left, C. P. Dadant, middle and "E. R.", right, was taken in 1885, 58 years ago. It will be noted that the style of men's hats, like women's, have changed radically during the years. Photo was taken in the Root home apiary.

Just News

Michigan summer meetings will be held August 5, Frankenmuth; August 6, apiary of Frank Slusher, 1 mile out of Traverse City; and August 7, Indian River State Park.—R. H. Kelty.

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Due to the shortage of gas and difficulty to travel in the East, it has been decided to postpone the Vermont Beekeepers' meeting to more favorable times. In spite of the lack of a meeting, the assocation will continue to function and the secretary will appreciate the annual dues of 50 cents from its members so we can function.—Charles Mraz, Sec., Middlebury, Vt.

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The Middlesex County Beekeepers' Association will meet on August 28th at 2 P. M. at the Lamprey bee and wild flower gardens in South Sudbury. Take the Boston Post Road out towards the Wayside Inn and turn in the private driveway on the right just beyond the Davis Turkey Farm.—A. M. Southwick, Waban, Mass.

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The New Rochelle Beekeepers' Association will hold their next regular monthly meeting at the home of Mr. and Mrs. M. Payne Pearson, 274 Clove Road, New Rochelle, N. Y., on Sunday August 15, 1943, at 2:30 P. M. Anyone interested in bee culture is cordially invited to attend. — S. Barnes, Publicity.

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Ohio beekeepers' summer meeting is scheduled for August 12 and 13, at Harmon Park, St. Paris, Ohio. An attractive program is being arranged, including a visit from Dr. John T. Brown, Direetor of Agriculture for Ohio. Emerson Long's extracting plant will be visited. All beekeepers are cordially invited. Hotel facilities available at Urbana and Piqua.—W. E. Dunham, Secretary.

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"A Living From Bees" is the title of a new book by Frank C. Pellett, Field Editor of the American Bee Journal, just published by the Orange Judd Co., New York. Its contents are new from cover to cover, orthodox in its teachings combining all the latest practices and discoveries connected with the industry. It follows the trend of the times in favor of upper entrances for the escape of moisture during winter, less of packing and more attention to the internal condition of the colony. He shows that Langstroth was the first to advocate upper entrances. In contrast to his former book, "Productive Beekeeping", where he showed large 4-colony packing cases, he now recommends less packing, explaining that felt wrapping, with or without packing, is now used instead of heavy, expensive cases. It presents the pleasurable and business side of beekeeping which fact is shown by the title, "A Living From Bees". The book is profusely illustrated with fine engravings. Price $2.00.

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The War Man-Power Commission has released the announcement that honey processors have been included among other food processors essential to the war effort.—Lloyd Gardner, Mgr. The Ohio Apiaries Coop. Assn., Inc.

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The next meeting of the York Cumberland Association will be held Sunday, Aug. 15, at 12 A. M., at the Saco River Grange Hall at Bar Mills, Maine. It is hoped that there will be moving pictures of some phase of beekeeping and a guest speaker of prominence. Anyone interested in bees or beekeeping is welcome.—H. C. Meriam, Sec.

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The Wyoming - Livingston County Beekeepers' Association will hold its annual meeting and summer picnic in the Park in the Village of Perry, N. Y., on Saturday, August 14. This is an all-day meeting beginning at 11 A. M. Bring your picnic lunch and sugar for your coffee which will be furnished by the Association.—Fred G. Benedict, Sec.

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After much consideration on the part of the officers of the Empire State Honey Producers' Association, it was decided to cancel the annual summer picnic orginally scheduled for August 14 at Syracuse, New York. It was felt that the restrictions on the use of gasoline and the shortage of help would make it impossible for many of the members to attend. A late fall or early winter meeting is now being planned and announcement of it will be made when the date and place is definitely set.—E. T. Cary, Sec.-Treas.

DEATH OF J. N. MAYES

Mr. J. N. Mayes, the "grand old man" of beekeeping of Texas, passed from this life on June 26th at the age of 94 years. Mr. Mayes was born at Mayesfield, Milam County, Texas, on a grant of land made by the Republic of Texas to his father.

As a boy he became acquainted with beekeeping, as his father owned a large number of "gums" of bees secured from trees along Little River Valley. At one time they had 120 such gums. Just at the time when boys become ambitious, the Civil War began, and Jim, not being of age was considered too young to join the Confederate Army, as it was too dangerous for a young boy. It did not, however, stop him from becoming a driver of one of the many ox teams that freighted goods from the railroad head at Bryan, Texas, to points along the Mexican border where this material could be traded for badly needed war materials. It is to be remembered that this trip from Bryan to the border followed a road that went through the Comanche-Apache Indian country where the chances of living through a trip were much less than they would have been in organized conflict.

After the Cival War Mr. Mayes became a carpenter, and many large buildings, especially small town and country churches were built under his competent direction. Deciding to make Dilley his home, he purchased land, and while following the trade of carpenter he began the rearing of bees and continued it throughout a long life. He early joined beekeepers' associations. He was many times an officer of the Texas Beekeepers' Association and for more than 25 years was associated in one way or another with the Apicultural Division of the Texas Agricultural Experiment Station. He was a friend of Wilman Newell, F. B. Paddock, and those who brought into existence the Experiment Station work in beekeeping. During his declining years, Mr. Mayes had been in charge of a project of the Texas Apicultural Research Laboratory wherein daily weightings and records of three colonies of bees have been taken under large apiary conditions. This set of records will, when worked up, be a contribution to the history of the beekeeping industry in Southwest Texas. Mr. Mayes operated up to the time of his death two large apiaries in the vicinity of Dilley.

CANADIAN BEEKEEPERS' COUNCIL FOR 1943

Front Row: F. Johns, Vancouver, British Columbia; W. R. Agar, Brooklin, Ontario; S. M. Deschenes, Montreal, Quebec; R. M. Pugh, Fort Qu'Appelle, Saskatchewan, Secretary-Treasurer; C. G. Bishop, Sherbrooke, Quebec.

Back Row: W. M. Duncan, Carman, Manitoba; A. T. Brown, Peterborough, Ontario, Vice President; J. W. Braithwaite, Brandon, Manitoba, President; W. G. le Maistre, Edmonton, Alberta; P. C. Colquhoun, Maple Creek, Saskatchewan; G. F. Pearcey, Kelowna, British Columbia. Absent: R. H. Hawthorne, Taber, Alberta.

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Editorials

Ceiling Prices On Honey We take this opportunity to call attention to the fixed prices for honey set by O.P.A. It is the duty of every patriotic American to follow these ceiling prices and refuse to take part in possible Black Market activities. We urge our American Beekeepers to avoid any agreement which will result in a return larger than the Ceiling price. The law makes the buyer and seller equally liable in such Black Market deals. We quote from MPR-275 which fixes the ceiling price of honey:

"1351.511 EVASION. Price limitations set forth in this Maximum Price Regulation No. 275 shall not be evaded whether by direct or indirect methods, in connection with any offer, solicitation, agreement, sale, delivery, purchase or receipt of, or relating to the commodities whose prices are herein regulated alone or in conjunction with any other commodity or by way of commission, service, transportation, or other charge, or discount, premium or other privilege, or other trade understanding, or otherwise."

So let's be good Americans and support our government in its efforts to stabilize the honey market as well as all commodities.

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"Keep 'Em Flying" is the slogan used during these war days to encourage the purchase of war bonds to supply men and airplanes to help win the war The same slogan might appropriately enough be adopted by the beekeeping industry to help win the war. Now that the beekeeping industry is recognized as an essential aid in the great world conflict to help increase the food supply, let's keep the bees flying. We need honey to increase our sugar supply, beeswax to coat our munitions, and the honeybee to increase fruits and the legumes—important sources of dairy products.

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Propolis or bee glue sometimes irritates the skin. We have had several complaints, particularly this season, of fine particles of bee glue and propolis from the scraping of brood frames, causing an irritation on the backs of the hands and between the fingers. Not all beekeepers are afflicted in this way but some seem to be allergic to this form of irritant. The obvious remedy is to use bee gloves, and if these seem cumbersome during the hot weather, wash the hands frequently in a solution of water and rubbing alcohol. There are other solvents for removing propolis from the hands but rubbing alcohol is available at any drug store at moderate prices.

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Alfalfa Weevil in California According to Bulletin 677 issued in March, 1943, by A. E. Michelbacher, of the University of California at Berkeley, the most serious damage by the alfalfa weevil occurred in 1940 when a number of fields in San Joaquin Valley was damaged and almost completely defoliated. In 1941 the damage was reduced, and in 1942 no serious damage was done by the weevil. "This pest can be controlled", according to this bulletin, "by maintaining vigorous stands of vigorously growing alfalfa, by timely cuttings, and by cutting the stubble as short as possible in the winter".

This weevil has made its appearance in other sections of the U. S. A., also Western Canada. Fortunately for farmers, also beekeepers whose bees gather surplus honey from this source, the pest is being controlled. It would seem that such pests occur in cycles.

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American Honey Institute There is no yardstick that will measure adequately the work that has been and is being done by our Institute under the capable directorship of Mrs Harriett M. Grace, Commercial State Bank Building, Madison, 3, Wisconsin.

A recent News Bulletin to Members reveals some amazing accomplishments during 1942. A few of these are that approximately $10,000.00 worth of printing was done; 500 to 600 letters were received and cared for daily; research on vitamin content of honey was sponsored, a news release to radio stations and newspapers was inaugurated, and friendly relations with allied food industries are being enjoyed.

The following excerpt from the bulletin is significant: "It is far easier

to protect Honey during these days than it would be to rebuild after the war. Let us help protect Honey Acceptance by equitable distribution."

The American Honey Institute is the beekeeper's best friend. May we continue to give it our moral and financial support.

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As we go to press excessive rains over much of the clover region have interferred with normal nectar secretion. It is hoped dry warm weather in the near future may permit bees to work.

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Farmers to Get Supplies Approximately 100 hard-to-get items needed on farms are made available to farmers by Priorities Regulation No. 19, effective June 1, 1943. This Regulation defines a farmer as "a person who engages in farming as a business by raising crops, livestock, bees or poultry."

To obtain these items the farmer (beekeeper) signs the following statement:

"I certify to the War Production Board that I am a farmer and that the supplies covered by this order are needed now and will be used for the operation of a farm."

The list of items covered by the Regulation includes auger bits, batteries, fractional horse power motors, pails and tubs, pipe fittings, hand tools, and wire screen.

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"Do Spring Feeding of Bees in the Fall" This bit of sage beekeeping advice was given by James E. Starkey, State Apiary Inspector of Indiana, recently, in one of his monthly letters to beekeepers of his state.

If beekeepers generally would follow that advice they would save themselves some hard work, worry, needless expense, and winter losses.

Some beekeepers are willing to take chances on there being enough honey in the hives to carry the bees through the winter. They hope their bees have enough to eat.

Beekeepers should know positively that their colonies have a superabundance of good quality stores in the fall. Provided the season has been favorable for the production of surplus honey, there is no place in successful beekeeping for guessing or taking chances on winter stores. During the main honey flow is a good time to get food chambers crammed full of honey and pollen for winter and early spring stores.

"The Mystery of Nectar" Reports have come in concerning the abundance of Dutch white clover bloom in some sections of Ohio and no bees visiting the blossoms. Yellow and white sweet clover apparently attract bees more than Dutch white. It seems, however, that bees work white clover heavily when conditions are just right. This plant is finicky, in that soil and atmospheric conditions must be favorable for nectar before bees get a surplus from it. It is possible that it may yield nectar later on this season. Generally speaking, white and yellow sweet clovers yield nectar even though the weather is somewhat cool, also during hot dry weather. These plants may have nectar with a high sugar content to attract bees, even when other clovers are in bloom.

We know comparatively little, as yet, about nectar secretion. At times, during the honey season bees store a surplus and it is somewhat difficult to determine the sources of nectar.

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Caucasians for Beginners and those Affected by Stings Authorities and those who have tested this race of bees raised in the Caucasus Mountains (the same bees raised in the plains are not so gentle) of Russia universally agree that **as a race** they are the gentlest of all bees, and what is more, some of the largest honey producers in the country are adopting them, not because these beekeepers are afraid of stings, but because they can work with them with a greater degree of comfort than with the ordinary strains of Italians.

While it is possibly true that the two-banded leather-colored Italians of northern Italy, as a strain, are just as docile, yet those who have tested both say that the Caucasians are the gentlest of all bees.

The late Father Hepner, of North East, Pennsylvania, brought two hives of his Caucasians to a bee meeting. It was a chilly day. He yanked off the covers, pulled out the frames one by one without smoke, but no one was stung.

There are several objections to **any black** bees, whether Caucasians, Carniolans, or the Dutch black bees, of this country. It has been alleged that Caucasians cannot be distinguished from the ornery, unpleasant blacks of this country. The fact is, there is a big difference. Caucasians,

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especially, have fuzzy rings that stand out very decidedly and there should be no difficulty in distinguishing them from the common blacks. Another objection is that Caucasians deposit much more bee glue on the frames and sections and over the hive than the ordinary Italians, and that is true. The propolis nuisance can be minimized by greasing the hive parts with cheap grease. The third objection is that the queens are so black that they cannot be distinguished from the ordinary workers surrounding them. This objection can be overcome by using some sort of colored pigment which can be applied to the back of the queen with a camel's hair brush. Obviously, oil, lacquer, or any other material that would cause irritation should not be used. There are certain water colors of a bright red or yellow found in children's toy paints which we are told can be used and the color will remain on the back of the queen for a considerable length of time.

Gleanings does not wish to go so far as to say that the Caucasians are the coming race, but it is rather significant that some large honey producers are beginning to adopt them on account of their gentle behavior. They will "bluff" some but seldom sting. If one uses caution he does not need to use smoke or even a hive tool.

Propolis connections must be broken quietly, allowing a period of ten seconds to elapse after the snap before opening the hive. Then gently lift the super cover.

Gleanings or its owners have no Caucasians for sale but we have seen whole apiaries of this strain of bees opened without smoke on a chilly day with scarcely a protest.

The question whether it is wise to substitute Caucasians for Italians may be discussed in a later issue.

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War Units Necessary for Deferment A beekeeper's draft status remains the same as originally outlined in Selective Service Release No. 175 issued on January 16, 1943, and referred to in the February issue of Gleanings, page 97.

This release lists honey as an essential farm product and specifies that 25 colonies of bees are equal to one war unit. A person with 200 colonies of bees would have 8 war units. Selective Service Boards can use their discretion as to the number of war units which may be accepted for deferment of the essential farm worker. Apparently no fewer than 8 units are acceptable in any instance and usually 16 war units (400 colonies of bees or their equivalent) are required to defer a farm worker. In mixed farming the number of colonies which a relatively small beekeeper has might make up sufficient war units to add to the other units computed from his production of tomatoes, beans, or his ownership of pigs, hens, cattle, or other stock.

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Building Up On the Flow Instead of For It Apparently many car loads of honey were lost this season, because a large percentage of colonies in the clover region were not sufficiently populous to take full advantage of the major flow when it started. This is unfortunate.

It was the late George S. Demuth, former editor of Gleanings, who used to mention colonies building up on the flow instead of for the flow. Colonies of bees, to be in prime condition for storing the maximum crop, should reach their full strength at the beginning of the major honey flow.

Unfortunately, weather conditions during the past spring were unfavorable, in some regions, for colony development. Long periods of cool weather prevented bees from taking advantage of early bloom. This resulted in a retardation rather than a normal development of colonies.

However, populous colonies with a super-abundance of stores — honey and pollen—left on the hive last fall, did manage to survive the adverse weather conditions and were sufficiently populous in bees to take full advantage of every hour of sunshine. Such colonies, in regions where conditions have been favorable for the production of honey, have already piled up a good surplus. What a whale of a crop would be secured if every colony was as good as the best.

It is truly amazing what a populous colony of bees will do under favorable conditions for storing honey. One honest-to-goodness colony is worth more than a dozen weaklings.

If more beekeepers would aim to have **"real colonies of bees,"** instead of "bees in hives", our industry would be richer and a larger percentage of the nectar that now goes to waste annually for the lack of bees to gather it, would be saved.

American Honey Institute News Notes

Madison is one of the 178 cities asked by the Postmaster General to establish the new zoning system to bring about the addressing of mail in a manner that will promote its rapid distribution and permit, to the greatest extent possible, city distribution to stations or districts to be made by clerks not having a knowledge of primary city schemes.

In order that we may receive your mail promptly your correspondence to us should be addressed as follows:

AMERICAN HONEY INSTITUTE
Commercial State Bank Building
Madison, 3, Wisconsin.

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The Director of the **American Honey Institute** is one of three delegates from Wisconsin to attend the Home Economics Association's Wartime Institute to be held at the University of Maryland June 17 to 21.

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On June 8 a broadcast on the Use of Honey in Early Canning was given.

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The Institute has inaugurated a monthly news release for its members. If you did not receive the June bulletin, please let us know.

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Did you receive a copy of the lunchbox leaflet done in colors red, white, and blue?

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The June issue of BETTER HOMES AND GARDENS, "read by more than 2,400,000 families", has a one-half page advertisement in colors featuring the Luscious Orange Blossom Honey Cake by Spry. This cake and the Honey Nut Cake by Swans Flour are particularly good for the summer months. The Honey Nut Cake has been sent to many boys in Service who say it is super-super—A war worker remarked, "We men like to find cake in our lunch boxes but the women put in cookies because they are more easily packed."

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Some time ago a reporter of one of the Chicago daily papers asked this question of waitresses in hotels and restaurants. "What is the most peculiar food combination that you have ever served to your patrons?" One answer was, "Two poached eegs on toast smothered in Honey."

A telegram from one of the largest companies in the country to the Amercan Honey Institute read, "What is the availability of honey now? On October 1?" How much all food crops depend on the weather should be taken into consideration. Think of the loss caused by the floods! Honey is one food that can be made to go a long way.

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By the way, one of the women in the office thinks the vegetable salad dressing on page 25 of the little blue book is the best she has ever eaten. Another woman makes her favorite sandwich with a mixture of peanut butter, honey, and chopped dill pickles.

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The Wesson Oil people in their colorful advertisement recommend that one-half cup honey be added to their standard salad dressing recipe for fruit salads.

F/Sgt. Michael Lackner, M., of Ottawa, Ontario, paid us a visit recently. Sgt. Lackner operates a small apiary.

Asked and Answered

Chickens and Bees in Same Yard

Question.—Have you any information relative to chickens vs. bees in the same yard?—Neil C. Gundry, Mich.

Answer. — According to information available, chickens and bees get on quite well, if placed in the same yard. We did hear of one black "cluck" who became rather inquisitive at the hive entrance and was driven out of the yard by the bees. The writer of the story said that other hens and chickens that attended to their own affairs were not molested by the bees.

Crude Method of Rendering Old Combs

Question.—I have about three bushels of old combs containing a good deal of pollen and dead brood (no disease). How can I treat these combs so as to preserve the wax?—Howard C. Lane, Iowa.

Answer.—One way to get the wax out of the old combs is to put them in a burlap sack and place this sack of combs in a wash boiler of hot water, placing a weight on the sack of cappings to keep it at the bottom of the boiler. Keep a fire under the boiler of water and keep the water boiling for a time until the wax melts and rises to the surface. The foreign matter will be retained in the sack. When the water cools, the cake of wax may be removed from the surface of the water. This method does not get all of the wax but part of it. If, in the future, you should have a considerable amount of old combs, it would pay to have them shipped to some reliable concern equipped to render old combs into wax.

Swarm Manipulation, Clipping Queen, etc.

Question.—I clipped one of my queen's wings and when the bees swarmed she fell off in front of the hive and I killed her. The bees returned to the hive. Will they stay? What will be the result if the queen's wings are kept clipped or will the new queen leave before I find her? Would that keep her from not mating? I could not find a queen two days after I killed the queen,neither could I find a capped queen cell.—E. A. Howton, No. Car.

Answer.—It seems likely that a young laying queen should eventually be found in your colony, since you killed the old clipped queen that came out with the swarm. Since, however, you did not find a cell from which a virgin queen emerged this may indicate queenlessness. It requires about ten days from the time a young virgin queen emerges from her cell until she mates and starts laying eggs. It is sometimes difficult to find a virgin queen in a colony. You should not clip the wing of a virgin queen until after she has been mated. When you do clip her, only one-half of the longest wing on one side should be clipped off.

Laying Worker Colony—What to Do

Question.—I have a hive of bees, which has laying workers. There are no other bees nearer than a mile. The colony is rapidly dwindling. What do you suggest? Two queens introduced without success.—L. H. Crosman, Pa.

Answer.—If your laying worker colony is weak in bees, it would hardly be worth bothering with. If, however, the hive contains a fair amount of bees, you might try introducing another queen. If you do this, we suggest you tack a piece of tin or wood over the hole containing the candy, in the end of the cage, and allow the queen to remain in the hive among the bees for about six days, after which the tin or wood should be removed, allowing the bees to release the queen from the cage in due time. Keeping the queen confined for a time gives the bees a longer time to become well acquainted with the queen before she is released.

Strengthening a Weak Colony with Brood

Question.—Can you take brood combs from a strong hive and place them in a weak hive to strengthen it? If this can be done, what is the procedure?—Alfred A. Guidoth, Conn.

Answer.—Yes, it is possible to take combs of brood from a strong colony to give to a weaker colony. This should be done with great care, preferably during a honey flow. It is inadvisable to transfer too much brood at one time. For example, if you have a colony covering eight or ten combs, you can select a comb of sealed brood, preferably a comb in which some young bees are beginning to emerge and after most of the bees are shaken off the comb, it may be carried to the hive containing the weak colony and placed in the middle of the cluster. In a relatively short time, the bees in the center of the comb will begin to emerge and these young bees will strengthen the weak colony. The queen in the weak colony will start laying eggs in the cells from which the young bees emerge. Transferring combs of brood from strong to weak colonies should

not be attempted until the weather is warm. Furthermore no transferring of combs should be done if AFB is prevalent.

What to Do with Moth Riddled Combs

Question.—I have wax moths in my combs. I have sent for some Methyl Bromide to destroy them. After I get them destroyed will the bees clean out the webbing and rebuild the combs where they are destroyed when I put them on the hives?—John W. Glenn, Ohio.

Answer.—The bees should remove webbing from the combs after the moth larvae have been destroyed by Methyl Bromide. However, if the combs are badly riddled, clear down to the mid-ribs, they should be cut out and rendered into wax and then replaced with full sheets of foundation. You should have good combs in your brood chambers, combs consisting mainly of worker cells. If the bees patch holes left in combs, they will usually build drone cells, which, of course, the queens will use for laying unfertile or drone eggs. We take it that the combs infested with moths are not on hives of bees but piled away in the apiary house. It would be well to get combs into use, even though they may not be used or needed by the bees at the present time.

Where to Place Second-Story or Super

Question.—I am going to use two-story hives but have not yet put the second story on. Can you tell me whether it would help swarm control to add the second story to the bottom instead of on top, about the time all but one or two frames are occupied?—Wesley James, Ohio.

Answer.—If the colony is strong and occupies at least eight combs with brood in the combs, it would seem preferable to place the super on top instead of underneath. Queens have a tendency to work up, rather than down.

What to Do with Combs with Dead Bees in Cells

Question.—What is the best way to remove dead bees from combs when they have crawled into cells and starved? I have a number of perfect frames which I am anxious to save.—Austin D. MacRae, Mass.

Answer.—It would be impracticable to remove the dead bees from combs by hand. The best thing to do is to put such combs in a super and place this super on a strong colony, prior to the honey flow. The dead bees will continue to shrink somewhat and the live bees will remove the dead ones from the cells of the combs and carry the dead bees out of the hive. If there is a large amount of dead bees in the combs, it would pay to distribute the combs among a number of strong colonies, if possible. However, such combs containing dead bees may be given to a package of bees and in due time the dead bees will be removed.

Retaining Ample Winter Stores

Question.—Does the single-story hive proper not hold sufficient food for the colony? If not, why are the hives not made larger? Where might one draw the line. If one super in addition to the hive, why not two? How is one to determine the amount of food necessary for the colony? How much can one feel free to remove for personal use and still leave plenty for the bees?—C. William Lepper, Jr., Penn.

Answer.—A single - story brood chamber, if well filled with honey late in the fall, might hold a sufficient amount for winter and early spring stores. However, inasmuch as brood-rearing in the fall is essential, in order to produce a populous colony to go into winter quarters, there is not comb space enough for brood-rearing and for honey in a single-story hive. In some localities, there is a late fall flow from asters which comes during and sometimes following the time that brood-rearing is suspended in the fall. Where such a flow is prevalent, bees may fill up on late gathered honey and thus store a sufficient amount of honey in a single story hive for winter and early spring stores. Bees need pollen as well as honey. According to the best authorities, each colony should have at least four or five combs of pollen, or, the equivalent of this amount of combs solid with pollen. We recommend at least 50 pounds of honey for each colony that goes into winter quarters. You will readily see that a single-story hive is not large enough for brood-rearing, pollen, and honey. A two-story hive should hold enough honey and pollen and should give enough comb space for brood-rearing. That is why the double-story hives are being used quite generally. At the time the 10-frame standard hive was adopted, beekeepers did not realize how much comb space is required for the three factors that go into successful wintering, namely, the production of a populous colony of bees, space for honey and space for pollen. Beekeepers who are liberal with their bees in the fall in giving an ample amount of stores are likely to have strong colonies in the spring and such colonies are likely to pile up a good surplus of honey, provided, of course, the season is favorable for beekeeping.

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Talks to Beekeepers

M. J. Deyell

Getting Myself by the Nape of the Neck

Those of you who have tried to do some writing will realize that it isn't an easy job. This morning, I had to literally take myself by the nape of the neck in order to get started on this month's "Talks".

It isn't that I do not enjoy writing. I do. I enjoy it more, however, when beekeeping conditions are favorable and when there is really something to write about. At the moment, weather conditions, in this part of the country at least, are unfavorable for nectar secretion. Possibly in some other states conditions are more favorable.

A week ago tomorrow, we were driven out of an apiary in Western Ohio by a heavy rain. I have seen some heavy downpours of rain in my day but never before had I seen the equal of that storm. It came from the East, quite an unusual direction for an electrical storm. Fields looked like lakes, water crossed the roads here and there. We were lucky to get home at all—and alive.

White Dutch clover is plentiful. The meadows are carpeted with it. It is possible, of course, that rains may cease for a time and that warm dry weather may give the White Dutch clover a chance to yield some nectar. We hope so. I still say we never know until the close of the season what the honey crop will be.

A Useful Carrier

In last month's "Talk", I mentioned helping to tote supers and sugar syrup from the road to apiaries some distance from the road. Opposite are pictures mentioned previously. This carrier proved to be a life-saver for bees during May and early June. It is quite light and easy to handle.

Right here, I would like to say that most of this worry and labor of feeding bees in the spring may be avoided by leaving an adequate amount of honey with each colony in the fall. If bees do get some surplus honey this season, there will be no excuse for leaving bees on short rations at the close of the season.

Chains

We have found that it pays to have a reliable set of chains with each apiary truck. Chains have helped us out more than once this season. Even when hauling supers of honey from apiaries to a central extracting plant a heavy shower may come up, making the road to the apiary impassable without chains.

Populous Colonies do Amazing Work

There is quite a variation this year in colony strength. Theoretically, colonies should be practically on a par in strength. It seems that theory and practice do not coincide in this respect.

With the right sort of management and the proper attention given to having each colony headed with a good queen, the piles of supers in an apiary should be about the same height. Unfortunately, some beekeepers, especially the commercial class, do not give much thought to this important matter. I have come to believe that it would pay, in many instances, to have about one-half the number of colonies that are ordinarily kept and make sure that this smaller number of colonies consists of real colonies and not hives of bees. One honest-to-goodness colony of bees frequently puts up more surplus honey than a dozen weak or mediocre colonies.

And, it is really amazing what a populous colony of bees will do in storing surplus honey during a week of favorable weather. We have some colonies that have already put up over 150 pounds of surplus. If all colonies did that well, we wouldn't have any "kick" coming regarding the crop.

I do believe that most of us will have to admit that in some instances, at least, the failure to secure a good crop of surplus is due to our not having colonies in the proper condition at the proper time. That is a

bitter pill for most of us to take but we may as well take it and profit from it.

More about Carrying Lighted Smokers

Since writing what I did in the July "Talk" about getting burned badly and having my automobile damaged considerably with fire as a result of carrying a lighted smoker in the baggage compartment, I talked with a large commercial honey producer who said that he lost a practically new ton and a half Chevy Truck with brand new tires as a result of failing to empty the contents of his bee smoker into a hole in the ground, then covering up the contents with dirt before traveling from one apiary to another. He admitted that he had learned the hard way but he says that never again will he carry a lighted bee smoker in a truck, even though the nozzle has been plugged.

This shows construction of carrier.

It should be said, in favor of commercial beekeepers who operate a series of apiaries a few miles apart, that it is possible to carry bee smokers containing burning fuel, the nozzles properly plugged, in a metal-lined practically air tight compartment on the side of the truck. This saves fuel and time taken to relight smokers.

While on this subject of fire, I would like to suggest also that a fire extinguisher be carried in each apiary truck, also that an extinguisher be available in every apiary house. One never knows when such an extinguisher will be needed.

Carrier loaded with supers.

Importance of Providing Ample Super Space

Referring back to what I said about populous colonies piling up a surplus in a relatively short time, it should be said that the colonies in question would not now have surplus if we had not put on an ample number of supers prior to the beginning of the main flow. Some of those strong colonies would have swarmed and would now be occupying bee trees. As a matter of fact, a

Carrier with ten gallons of syrup and feeder can.

few colonies did swarm, due to lack of comb space.

An article appearing in April, 1939, Gleanings concerning work done by the Pacific States Bee Culture field laboratory refers to work done on nectar concentration, by Mr. Vansell.

It was found in California that the sugar content of various nectars shows a variation of from 3% to 70%. The average sugar content of nectar is about 25% to 30%. If the average concentration is 30%, bees would have to handle 266 pounds of nectar in the production of 100 pounds of honey.

For example, if a colony stored 15 pounds of surplus in one day, which is not uncommon, this would mean that it would take about three standard combs to hold this amount of honey. However, it would take about nine combs, or an entire 10-frame super to hold the nectar before it would have the excess water content evaporated from it by the bees.

When nectar is carried into the hive it is spread through the empty cells while it is being evaporated and later it is concentrated into less comb space as it is ripened.

In the production of extracted honey it is certainly preferable to provide too many supers rather than too few.

In the production of section comb honey it is necessary, of course, to confine colonies down to less comb space than is provided in extracted honey production in order to have the bees concentrate on the sections and cap them over thoroughly. That is one reason why comb honey production is so much more difficult than the production of extracted honey. The swarming problem enters in due to congestion brought about by keeping colonies reduced down to less comb space.

New Honey—How Good It Tastes

All beekeepers are anxious to taste the new honey to see if it is any different from honey secured in previous years, also to satisfy that craving for the flavor that usually goes with honey directly after it is taken off the hive.

Beekeepers are naturally anxious to take off honey as early as possible. Some remove combs of honey for extracting before the honey is properly ripened. Honey taken off too early is likely to ferment. Extracting combs should not be removed from colonies until the combs are at least three-quarters capped over. Comb honey should not be taken off until sections are entirely capped. It is well, however, to remove comb honey before it becomes travel stained.

How To Take Off Honey

Beginners with only a few colonies of bees can remove extracting combs from supers by brushing the bees off the combs with a bee brush. Sections of comb honey may be removed in like manner.

A more convenient way to remove surplus honey is to use a bee escape. A bee escape is a contrivance that fits into the hole in the middle of the inner cover when the wood block is removed. The inner cover, containing a bee escape, is then placed underneath the super or supers to be removed and the bees go down through the bee escape into the brood chamber and are unable to return to the super because of two very pliable springs through which the bees can pass but are not able to return into the super above.

It is well to get honey extracted from the combs as soon as possible after they are removed from the hive. Honey that is warm, right off the hives, is extracted easily and can be strained quickly.

Extracting Equipment

A small extractor, a two or three frame machine, is large enough for the beekeeper with from one to

(Continued on page 500)

Amateur home extracting outfit. Three-frame extractor, left, uncapping outfit made with wash-boiler, camp stove for heating a pail of water, honey knives, and a honey tank at right.

BEEKEEPING AND VOCATIONAL AGRICULTURE

By W. H. Purser
Teacher of Vocational Agriculture

For the past several years it has been my pleasure to work with a number of boys in my all-day classes and farmers in my evening classes who were beekeepers. The students in most cases who have kept bees as part of their supervised farming programs have been leaders in school or the community.

Bees have paid the students the greatest income per hour for labor invested than any other productive project in our community. Bees fit well into the renter or tenant program and they furnish a food that is unexcelled. Beeswax is a war essential and beekeeping furnishes an unlimited amount of recreation, study, and research.

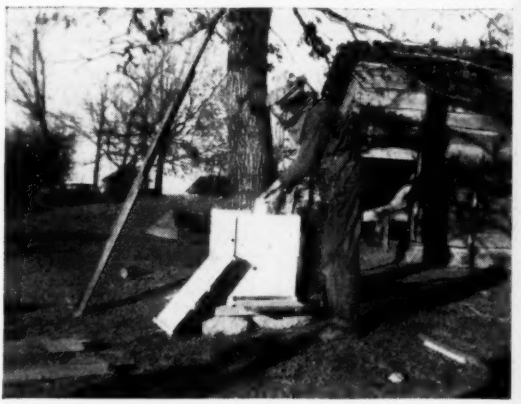
It has been my aim to assist farmers already in the bee business rather than start new beekeepers. In 1941 Mr. Belton Roberts, an evening class member, became interested in improving his bees. He had about 40 hives in what he called homemade patent hives. He had ordered part of his frames, made his bodies, tops, bottoms, and shallow supers. Practically no foundation comb or wire had been used. He made no effort to control swarming. In fact, he was glad to have a swarm since that was where he was getting most of his honey. I visited Mr. Roberts and invited him to visit my apiary. He looked a little surprised when I puffed a little smoke at the entrance of a hive but he was more surprised after he had removed four supers well filled and capped off of one hive. He had never dreamed of needing more than two shallow supers per hive. Mr. Roberts became interested, had all hives requeened, and the bees transferred to modern hives. He should, under normal conditions, average 100 pounds of honey per colony this summer where he has been making less than 10 pounds. He will also have 40 hives worth ten dollars each where they were worth one dollar.

I have heard a number of agricultural workers confess a dislike for bees. This is unfortunate since the Alabama farm beekeeper needs our help. We as leaders should at least help launch a war on box hives in Alabama and the South.

Brilliant, Alabama.

Senior class in vocational agriculture

This is the system Mr. Purser is fighting



Mr. Roberts feeding the bees
Below: Herald Bostic

Buy and Sell Here

CLASSIFIED ADS

Only responsible advertisers and honest advertisements will be admitted to these columns. References required from new advertisers not known to us. Rate. 8 cts. per counted word, each insertion. Each initial, each word in names and addresses, the shortest word such as "a" and the longest word possible for the advertiser to use, as well as any number (regardless of how many figures in it), count as one word. Copy should be in by the 10th of the month preceding.

HONEY FOR SALE

NEW CROP extracted honey in retail packages and 60-lb. cans. Edward T. Cary, 410 Tallman St., Syracuse, N. Y.

HEAVY FANCY white comb, $6.00 case; Mim. 12 oz., $5.50; No. 1 clover, $5.25; Mixed, $5.00. C. B. Howard, Geneva, N. Y.

HONEY FOR SALE—We buy and sell all kinds, any quantity. H. & S. Honey & Wax Co., Inc., 265-267 Greenwich St., New York.

WE BUY AND SELL all varieties of honey. Any quantity. Write us for best prices obtainable. The Hubbard Apiaries, Onsted, Michigan.

TOWNSEND SALES COMPANY, E. D. Townsend, Northstar, Michigan, buy and sell Michigan clover honey. Write if you have honey to sell, or want to buy some of this fine honey. Address TOWNSEND SALES COMPANY, Northstar, Michigan.

FOR SALE

I SELL BEST outfit for finding beetrees. GROVER, Bristol, Vermont.

FOR SALE—Root wax press, good condition. Price $17.50. I. R. VanDevier, Medina, Ohio.

New and used beekeepers equipment also once used honey cans. Norman Bullpitt, Rainier, Wash.

QUEENBEE PAINTING outfits, $1.00; hive cards, 10-15c, postpaid. Southwick Apiaries, Waban, Massachusetts.

FOR SALE—70 wooden cases good, used, 5-gal. cans. Forty cents case. Two cans in case. Dr. Hayman, Doylestown, Pa.

COMB FOUNDATION at money-saving prices. Wax worked at lowest rates. Comb and cappings rendered. Robinson's Wax Works, Mayville, N. Y.

FIFTY QUEEN EXCLUDERS—7 wire and wood. eight-frame, 35c each. 1500 cartons for 60-pound cans, $7.00 per hundred. Oliver Meyer, Preston, Iowa.

50-Frame Merry-go-round, 3 honey-tanks, 325, 150, and 100 gallons with gates, almost new;also one uncapping machine, Root No. 409, complete with motor and roller stand. One Jewel Flueless 2-H. P. steam boiler, 100-lb. pressure, used very little. Will accept honey and wax in payment. ALEXANDER CO., 189 Reynolds Road, Toledo, Ohio.

GET YOUR DRAWINGS and construction detail NOW for proven trade BRADSHAW DEMOUNTABLE UNCAPPING PRESS. No more headaches, simple to build yourself. Won't rust out, last lifetime. Producers report it greatest improvement fifty years. No heat required, will not darken honey. Adaptable any size outfit. Send $2.00 today for PLANS to Bradshaw & Sons, Wendell, Idaho.

WRITE FOR CATALOG. Quality bee supplies at factory store prices. Prompt shipment. Satisfaction guaranteed. The Hubbard Apiaries, Manufacturers of Bee Supplies, Onsted, Michigan.

SAVE MONEY by letting us work your wax into wired regular comb foundation. Large catalog describes everything. You pay only wholesale factory prices as we have no agents. Walter T. Kelley Co., Paducah, Kentucky.

HONEY AND WAX WANTED

BEEKEEPERS TAKE NOTICE—We cannot guarantee honey buyers' financial responsibility, and advise all beekeepers to sell for cash only or on C. O. D. terms except where the buyer has thoroughly established his credit with the seller.

WANTED—3 tons clover honey, also amber honey. L. K. Hostetter, R. 3, Lancaster, Pa.

WE PAY CASH for extracted clover honey. Fair-Field Honey Company, Millersport, Ohio.

HONEY WANTED—State kind, quality, amount, Ellsworth Meineke, Arlington Heights, Ill.

WANTED—100 cases comb honey, also extracted in sixties. C. Jankowski, Prairie View, Illinois.

WANTED TO BUY, comb, chunk, and extracted honey, any amount. Lose Bros., 206 E. Jefferson, Louisville, Ky.

WANTED—Honey and beeswax. Mail samples, state quantity and price. Bryant & Cookinham, Inc., Los Angeles, Calif.

WANTED 150,000 lbs. honey or any part thereof. Send samples and mention size of containers, to Holland Honey Cake Co., Holland, Mich.

TRUCKLOADS OR CARLOADS HONEY WANTED. Send sample and state price. H and G Apiaries, 2111 Cashion Place, Okla. City, Okla.

HIGHEST cash return made the day we receive your beeswax. Write for shipping tags and quotations. Walter T. Kelley Co., Paducah, Kentucky.

COMB HONEY WANTED. State size section, how packed and the quantity you have. Frank H. Hauck, P. O. Box 84, Kew Gardens, New York.

WANTED—All grades of comb and extracted honey. Bee supplies and honey containers for sale. Prairie View Honey Co., 12243 12th St., Detroit, Mich.

WANTED—White or light amber extracted honey, truck lots to a carload. Send sample with price offered. Bee-Kist Products Co., San Antonio, Texas.

XUM

WANTED light and dark honey. State price and send sample. C. W. Yergey, 429 Lincoln Ave., Pottstown, Pa.

WANTED—White clover and light amber honey. Any amount. Cash at time of delivery. Clover Blossom Honey Co., 975 Berkley Road, Columbus, Ohio.

WANTED—We pay cash top price for clover honey in 60-lb. tins. Any quantity. Send samples and best prices. Cloverdale Apiaries. F. M. Babcock, Fredonia, N. Y.

WANTED—White clover chunk honey in shallow frames and extracted in sixties. State amount and price wanted in first letter. KEDASH BROTHERS, Chillicothe, Ohio.

HONEY WANTED—All Grades and Varieties. Highest Cash Price Paid. Mail Sample. State Quantity. HAMILTON & COMPANY, 1360 Produce Street, Los Angeles, Calif.

WANTED white or light amber extracted honey from 1000 lbs. to a carload. Cash waiting. Send sample and best price to Honeymoon Products Co., 39 E. Henry St., River Rouge, Mich.

HONEY WANTED—Buying all grades. Clover, light amber, basswood, raspberry; also southern honey, palmetto, orange, tupelo, gallberry. Will furnish cans and shipping cases if needed. J. Wolosevich, 6315 So. Damen Ave., Chicago, Illinois.

CLEAN YELLOW BEESWAX, 43c pound, less transportation cost; quick cash. 38th year in business. Always in market for hides, raw furs, wool, calf, sheep, goat, and deerskins; ginseng, golden seal, tame rabbit skins. No commission to pay. Keystone Hide Company. Dept. GIBC, Lancaster, Pa.

HONEY & WAX wanted—all grades—any quantity. Bring it in any time and receive highest cash prices or send sample with your quotation. We have large supply of "DURAGLAS" honey containers and 60-lb. cans, bee supplies and accessories for sale at wholesale prices. ALEXANDER CO., 819 Reynolds Road, Toledo, Ohio.

BEES AND QUEENS FOR SALE

DELIVERY 2000 finest quality young Italian queens, $1.00 each. Hyland Apiary, Sylvester, Ga.

BRIGHT ITALIAN AMERICAN QUEENS, 75c each, any number. D. W. HOWELL, Shellman, Georgia.

NORTHERN-BRED Queens. Hardy, honey-producing Italians. 75 cents each. Shirl Baker, Rodney, Michigan.

EMPIRE STATE STRAIN Italian Queens. Bred for honey production. 85c each. B. B. Coggshall & Son, Groton, N. Y.

CAUCASIANS — Untested queens, .75c each. Safe arrival. Prompt shipment. Lewis & Tillery Bee Co., Greenville, Ala.

IMPROVED ITALIAN queens, 75c; from a strain that produced over 600 lbs. of honey per colony. Henry Loehr, Caldwell, Tex.

CHOICE bright Italian queens, northern bred for gentleness and hustlers, 75c each; dozen, $8.00. Emil Gutekunst, Colden, N. Y.

GOLDEN QUEENS — Excellent quality; gentle, productive; health certificate. Satisfaction guaranteed; 75c. O. E. Brown, Rt. 1, Asheboro, North Carolina.

CAUCASIAN QUEENS in June, 75 cts. Package bees now, 2-lbs., $2.80, and 3-lb., $3.65. Deduct price of queen for queenless packages. Miller Bros., Rt. 1, Three Rivers, Texas.

HONEY WANTED
Carloads and less, all grades.
Will pay top prices.
Would contract now for crop.
Also Beeswax.
H. & S. HONEY & WAX COMPANY, Inc.
265 Greenwich Street, New York, N. Y.

CASH BUYERS OF HONEY
Carload or Less
B-Z-B Honey Company
Alhambra, Calif.
(Los Angeles County)

WANTED--Extracted Honey All Varieties
Send samples and delivered prices to
JEWETT & SHERMAN COMPANY
Cleveland, Kansas City and Brooklyn

COMB HONEY WANTED!
Advise quantity, grade, size section, and how packed.
FRANK H. HAUCK
P. O. Box 84, Kew Gardens, N. Y.
Bank references furnished on request

New York Beekeepers
The field is full of honey buyers. It's definitely a seller's market and a chance to get out of debt and build for the future. Do some serious thinking now. Tomorrow may be too late. Buyers will be critical then. Seek a permanent outlet which you yourself control. See what a Cooperative can do to build for post war market. It's equipped to do a big job. We need millions of pounds of honey to do it. The bonded warehouse assures a cash advance on delivery. It's your opportunity. The time is right. Ask for further information.
Finger Lakes Honey Producers Cooperative, Inc.
Groton, New York

NORTHERN BRED
Leather colored Italian queens bred for resistance to disease
75 cents each
DIEMER BEE CO.
Liberty, Mo.

Pettit's Summer Queens

Any number 80 cents each U. S. money

In Canada $1.00 each, Canadian money (Pays exchange and 10% duty)

Write for particulars to

Morley Pettit

Tifton, Georgia, U. S. A.

Moore's Strain

Away back in 1879 I commenced rearing Italian queens with the object of improvement constantly in view.
By careful selection during all these years I have succeeded in producing a strain of three-banded, leather-colored Italian bees, known as MOORE'S STRAIN OF ITALIANS, which has won a world-wide reputation for honey-gathering, hardiness, gentleness, etc.
Send for descriptive circular and read reports from those who have tried them.
Untested Queens, $1.00 each; 6 for $5.00; 12 or more, 75 cents each.

J. P. MOORE, R. 3, Falmouth, Ky.

Former address, Morgan, Ky.
Safe arrival and satisfaction guaranteed.

3-BAND ITALIAN QUEENS!
OF QUALITY
75c
By Return Mail

Proven Quality at lower prices. We guarantee you best results and not excuses. Purely mated queens, full weight packages of young baby bees. Prompt service, safe arrival, and satisfaction in every respect.

State Health Certificate Furnished.
Pkgs. F. O. B. Express.

Untested Queens,	$ .75
Tested Queens,	1.50
2-lb. package with queen,	2.80
3-lb. package with queen,	3.65

JOHN A. NORMAN, Rt. 2, Ramer, Ala.

FOR SALE — Italian Queens. Graydon Bros., Greenville, Ala., Rt. 2.

PACKAGE BEES AND QUEENS. Hustling Italian stock. Prompt and reliable service. Reasonably priced. Write for circular. Crenshaw County Apiaries, Rutledge, Ala., U. S. A.

FOR SALE—Italian Queens, northern-bred, for business. Safe arrival. 46 years breeding experience. Untested, .75c; 3 for $2.00; 1 Select, $1.00. I. F. Miller, 183 Valley, Brookville, Pa.

GOLDEN SELECT untested queens, extra fine quality, produce very gentle bees, a health certificate with every order. 1 to 25, 80c; 25 up, 70c. Carolina Bee Farm, W. O. Curtis, Graham, N. C.

FOR SALE—600 colonies, including all (standard) equipment, honey house, truck, and crop of honey, account age. Bees guaranteed free from disease. R. D. Hiatt, Columbus, Ohio.

HELP WANTED

WANTED to hear from an experienced bee man, married or single, interested in a year around job. Chas. L. Phillips, Fromberg, Montana.

WANTED—Experienced man, married or single, in queen, package, and honey production. Year around work. Give full particulars when replying. Al Winn, Rt. 1, Petaluma, Calif.

Miscellaneous Wanted

WANTED—2-frame reversible extractor. Otis Carder, Lakewood, Ill.

MAGAZINES

THE INDIAN BEE JOURNAL—The only bee journal in India. Sample copy free Yearly, 7c6d. Apply Editor, Indian Bee Journal, Jeolikote, Dist. Nainital, U. P., India.

INTERESTED in Angora Goats? Read the Sheep and Goat Raiser, Hotel Cactus, San Angelo, Texas, the only ranch magazine published serving the Angora Goat industry. Subscription, $1.50, Sample copy fifteen cents.

READ the South African Bee Journal to be conversant with conditions from far afield. Subscription 5/ per year. For further particulars, write to the Hon. Treasurer, P. O. Box 43, Cleveland, Johannesburg, S. Africa.

WESTERN CANADA BEEKEEPER, official organ of the Manitoba Beekeepers' Association, one year, $1.00; in combination with one year's subscription to Gleanings in Bee Culture, $1.60. Wallingford Building, Winnipeg, Canada.

MANY BEEKEEPERS have proven raising fox, mink, nutria, muskrats, rabits, highly profitable. Send dime for sample copy. Canada's oldest fur farming magazine telling how. Fur Trade Journal of Canada, Box 31, Toronto, 2, Ontario.

THE BEE WORLD—The leading Journal in Great Britian and the only international bee review in existence. Specializes in the world's news in both science and practice of apiculture. Specimen copy post free, 12 cents stamps. Membership in the Club, including a subscription to the paper 10/6. The Apis Club. L. Illingsworth. The Way's End. Foxton, Royston, Herts, England.

BUY U. S. WAR BONDS AND STAMPS

TEN MILLION POUNDS OF HONEY WANTED

IT'S EASY TO START AN ARGUMENT!

A woman was working a cross-word puzzle and said to her husband: "Darling, what is the three-letter word for a female sheep?"

And he replied: "Ewe, dear!"

Well, any married man can tell you what happened then, and, like we said in the beginning, it's easy to start an argument.

But we honestly believe that there is no argument when we say that the future of the Honey Industry after the war is won rests with the consumer. A great many of the present fair-weather friends may desert both producers and packers after the war.

If you believe in the value of the ultimate consumer as we do, why not market your crop through this organization for CASH at ceiling prices? Should you be short of 60-lb. cans or cases we will relieve you of that worry. We have capably served the beekeeping industry for the past third of a century.

Here's a smiling beginning for both of us. Please mail the coupon below, which does not obligate you in any way.

C. W. AEPPLER COMPANY

Oconomowoc, Wisconsin

C. W. Aeppler Co., Dept. G-8
Oconomowoc, Wis.

I operate ..... colonies of bees.

I estimate my crop of honey at ..... Pounds.

Name .....

R. R. or Street No. .....

City ..... State .....

Rossman & Long

P. O. Box 133
MOULTRIE, GEORGIA

Wish to

THANK all their customers, old and new, for their business. We have striven to deliver and please. Due to scarcity of labor and other difficulties we have had quite a proposition making shipments, but feel we have done the best possible under the conditions.

If you failed to place your order early enough to have it accepted we are exceedingly sorry both on your part and ours. Keep it in mind and do not delay next spring, as the demand is sure to be great.

Write us about your SUMMER and FALL QUEEN needs. We will keep our yards in operation for your convenience.

Again we THANK YOU.

J. G. ROSSMAN E. W. LONG

HOLLOPETER'S QUEENS

Our supply and delivery of early queens was limited by the very late spring. Now during the buckwheat fall flow prompt delivery can be had of most excellent queens. A good young queen introduced now inures uninterrupted egg laying in spring when every egg counts most toward a honey crop.

Untested queens, Italians, 1, 80c; 2 and up, 75c; Tested queens, $1.50; breeders, $6.00.

White Pine Bee Farms, Rockton, Pa.

A LESSON FROM THE POULTRY MAN

(Continued from page 463)

reveal indications of any extensive experimental work connected with this troublesome feature." He does not specify what government nor which stations he is referring to but of the annual reports at hand of five different Federal Government Stations, swarm control is mentioned in four of them. This indicates that they are doing some work on this problem.

Your correspondent further writes that "methods which are more or less successful one year are total failures the following year." This being the case it is of little use filling up an annual report with particulars of treatments of unproven worth or methods that have not yet been thoroughly tested for a number of successive years.

The federal government has over twenty stations and a number of sub-stations in Canada. The provincial governments also maintain farms and agricultural colleges at which bees are kept and studied. Some of them are, no doubt, devising and testing different methods of swarm control but are waiting some definite results before publishing the details.

All of their bulletins, which I have seen, on the summer management of bees mention the best known methods to use in the control of swarming.

Kapuskasing, Ontario.

St. Romain's "Honey Girl" Italians

Hardy — Long Lived — Good Honey Producers — Line - Bred — Pedigreed Breeders.

Young laying QUEENS	1 to 3	4 to 9	10 or more
	80c each	70c each	65c each

3 lbs. bees with queen, $4.00.

Live delivery - No disease here - Certificate of inspection with each shipment.

A. D. ST. ROMAIN'S APIARIES, MOREAUVILLE, LA.

STOCK BRED FOR RESISTANCE

Use this stock when it can be obtained to carry forward your Victory campaign for disease control.

Late fall requeening has been found highly practical and is preferred by many successful honey producers. Make queens available at any time by the use of the nucleus method of queen reservior and introduction.

THE IOWA BEEKEEPERS' ASSOCIATION
State House, Des Moines, Iowa

LET'S CAN WITH HONEY

(Continued from page 457)

then the honey. Heat carefully to boiling, stirring constantly. Boil hard 1 minute. Remove from fire. Add fruit pectin. Stir 1 minute. Skim.

Honey Pear Conserve

Five cups pared, chopped pears, 2 lemons, 3½ cups honey, 1 orange and 2 cups raisins.

Prepare pears. Remove seeds from lemons and orange. Grind pulp and rind using coarse knife of food chopper. Combine fruits and honey. Cook slowly, stirring frequently, until thick.

Honey Chunk Pickles

Select fresh firm cucumbers, not over 1½ inches in diameter. Wash and cut into ¾ inch slices. Bring to boiling 4 quarts of water and 2 cups of coarse medium salt; cool. Pour over cucumbers. Weight down well so all slices are covered completely with brine. Let stand 3 days. Drain. Let stand in fresh water (weighted down) for 3 days. Drain. Then stew (a low simmer not a boil) for 2 hours in a weak vinegar to which has been added a lump of alum the size of a walnut. Drain. Cover with hot sirup. To 7 pounds of pickles use 6 cups of honey or cider vinegar, 4½ cups of honey, 1 ounce whole allspice, 1 ounce broken cinnamon sticks, and 1 ounce celery seed. Boil together 3 minutes.

It is not necessary to seal these in jars. They will keep perfectly in a crock which is covered with a plate to keep out dust. Upon standing they become a rich, deep translucent green—as nearly like commercial sweet pickles as possible — only much better!

Aurora, Nebr.

MOUNTAIN GRAY

Caucasian Queens

We are booked to capacity of our shipping for August. Thanks for your orders.

BOLLING BEE CO.,

Bolling, Ala.

SELECT — QUEENS — SELECT

Three-banded Italian queens that produce extra good workers. Buy where you get good queens, so try our strain. Satisfaction guaranteed or your money back. Health certificate with every order.

1 to 25.....75c each
25 to 50.....70c each
50 up .....65c each

Alamance Bee Co., Geo. E. Curtis, Mgr.
Graham, N. C.

Select Untested Italian Queen Bees, 75c Each

any quantity.

Tested Queens, $1.50 each.

The Puett Company

Hahira, Ga.

— QUEENS —

Italians — Caucasians

As good as money can buy

90 cents each.

100 for $75.00.

WEAVER APIARIES

Navasota, Texas

Requeen with Sullivan's Queens

1 to 24, 75c
25 to 100, 70c

We are now booking orders for 1944. Prices will be those of the Alabama Beekeepers' Association. Be sure of getting your bees on time by booking early.

SULLIVAN'S APIARIES
Gilbertown, Ala.

Plenty of Quality - Bred Three - Banded Italian Queens.

1 to 100, ... $ .65 Each
100 up, ... .50 Each

FARRIS HOMAN
Shannon, Miss.

When Writing to Advertisers Mention Gleanings

SELL your HONEY Where Highest

AND HELP

BEEKEEPERS

If you have honey in large quantities or small—in carload lots or just a few cans—write, wire or phone T. W. Burleson & Son direct. We want to know you personally—we want you to know us. Send samples of the honey you have for sale and state or estimate the amount you have or will have available. We will send complete details of our guarantee and quote you highest prices for your honey. If desired, your cans will be returned in accordance with O.P.A. Order No. 275.

WHAT

T. W. Burleson

on Your Contract for Honey Means

- It is your guarantee that you will get the highest possible legal cash price for your honey.
- It is your guarantee that you will get a square deal this year, next year and every year thereafter that you choose to trade with Burleson's.
- It is your assurance that you are helping to maintain the gains that the honey industry has made in recent years.
- It is your assurance that your honey is moving to market in a manner that will best protect the future of the honey business.
- It is your assurance that you have a friendly, loyal organization working with you that will stand by you during the lean years as well as the fat years.

T.W. BURLESON & SON

You Get the Cash Price!

BUILD A SOUND FUTURE FOR *The* HONEY BUSINESS!

BURLESON GUARANTEES HIGHEST LEGAL PRICE!

We know that every pound of honey you produce this year should bring the highest legal price and so do you—but we are going a step farther and make *sure* that you get the highest legal price if you sell your honey to Burleson's. We have carefully studied the types of honey contracts and other methods of purchasing that are being used under present regulations and can guarantee to pay you the highest possible legal price for your honey. A special Burleson guarantee bond that will insure your getting the highest legal price irrespective of changes that may occur and backed by the resources of one of America's largest honey packers will be furnished to every honey producer who signs a contract with Burleson. Today the honey industry, due to the shortage of sweets, faces a crisis that can be met only if you, the honey producers of America who know the business, wholeheartedly support T. W. Burleson & Son and other loyal and established friends of the industry by offering Burleson and such companies every pound of honey you have. In the past when the going has been tough and your honey has been hard to move Burleson's have kept right on plugging and have spent thousands of dollars to help maintain the higher prices and pass on the extra profits to you. Yes, even when some large honey organizations and companies were flooding the market at rock-bottom prices and driving the profit out of the honey business. And we know that although prosperous times are here today, the fight to maintain profitable honey prices will be with us again in a few years. Your best investment in the future of your business today is to sell your honey to producer-packers who have proved to be your friends, have stuck by you year after year, and have always paid off in cash. Your loyal support now will insure holding to the greatest extent the gains that the honey industry has made during the past few years and will mean extra cash in your pocket from your honey crops for years to come. For the greatest profit for you this year and for the future of your business—send samples to T. W. Burleson & Son and obtain full details of Burleson's guarantee that will get the highest legal price for your honey.

PACKERS OF BURLESON AND LONE STAR BRAND HONEY

WAXAHACHIE, ESTABLISHED 1909 **TEXAS**

XUM

ARE YOU KEEPING UP . . .

with the latest developments in your field? Here's a group of magazines that specialize in a particular subject! You'll be interested in at least one of these magazines. . and you have the assurance that the articles are written by people who know. Send in your subscrption today!

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- Gleanings in Bee Culture, $1. per year
- Beekeepers' Item, $1.
- American Bee Journal, $1.
- Beekeepers Magazine, $1.

Farming
- The Country Book, quarterly, $1.
- American Farm Youth, 75c
- Fletcher's Farming, 50c

Goats
- American Dairy Goat News, $1.
- Goat World, $2.

Livestock
- The Cattleman, $1.
- American Cattle Producer, $1.
- Florida Cattleman, $1.
- National Live Stock Producer, 50c
- Texas Live Stock Journal, $1.
- Eastern Breeder, $2. (8 months $1.)
- Hog Breeder (all breeds) $1.
- Sheep (and Karakul) Breeder, $1.
- The Sheepman, $1.
- New Mexico Stockman, $1.
- Dairyland News, s. m., 50c
- Dairyman's Journal, 35c
- Hoofs & Horns (rodeos, west) $1.
- National (Saddle) Horseman, $5.

Pigeons
- American Pigeon Journal, squab-fancy, $1.50
- Pigeon News, fancy only, $1.50

Poultry
- Cackle & Crow, the Poultrypaper, $1.
- Pacific Poultryman, 50c
- Florida Poultryman, 50c
- New Hampshire Breeder, quarterly, 3 yrs. $1.
- Bantam Magazine. $1.
- Northeastern Poultryman, 24 issues, 2 years. $1.

Rabbits
- Small Stock, (rabbits, cavies exclusively) $1.
- American Rabbit Journal, $1.

Other Specialties
- Dairy Farmers Digest, $1.
- Eastern Fruit Grower, $1.
- The Soybean Digest, $1.50
- New Agriculture (sugar beets only) $2.
- American Fur Breeder, (mink, etc.) $1.
- Small Commercial Animals & Fowls, 50c
- Co-operative (Farmers) Digest, $2.

All magazines are monthlies unless otherwise noted; prices are for one full year. Satisfaction guaranteed. All orders are handled promptly and acknowledged. Rush your subscriptions today. Remit in any way convenient to you.

MAGAZINE MART

Dept. GB P. O. Box 1288, Atlanta, 1, Ga.

Sample copies at single copy prices.

For SATISFACTORY RESULTS
you can ship your Honey to us with
CONFIDENCE.
Write what you have to offer and mail sample.
* * **REFERENCES** * *
First National Bank, Chicago, Ill.
E. RAU & CO.
No. 110 No. Franklin St. Chicago, Ill.
(35 Years Experience Handling Honey)

TAKE THE TERROR OUT OF BEEKEEPING

To get quick relief from burning and swelling due to beestings mosquito bites, chiggers, and ticks, also athlete's foot and ivy poisoning, Pheno-Isolin is ideal.

$1.00 Druggists.

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"EASY WAY"
WINTER HIVE PROTECTORS
Economical - safe winter insurance - good ventilation - no weather exposure - dry hives mean better bees - earlier brooding. Installed in a few minutes (a valuable asset)
Good for several seasons.
Sample price $1.25 each postpaid.
Order your samples today. You'll want more.
KING KOHL (9) Cleveland, Ohio

Australian Beekeeping News
The Leading Bee Journal of the Southern Hemisphere is the
"Australasian Beekeeper"
Subscription 5 shillings per year. Start any time. Inquire for International Money Order for 5 shillings (Australian) at your Post Office.
Write now to The Editor.P. O. Box 20.
West Maitland New South Wales
Australia

BEEKEEPERS ITEMS

Serving the beekeeping industry for a quarter century without bais or prejudice. "The forum for the thoughtful" One year $1.00; two years, $1.50; sample copy, 3c stamp.
With Gleanings it provides a combination that covers the beekeeping field.
Both magazines for one year, $1.75
BEEKEEPERS ITEM
P. O. Box 687 San Antonio, Texas

BUY U. S. WAR BONDS AND STAMPS

Wanted Amber Extracted Honey
Send Samples and best price Frt. Paid to Cincinnati, O.
THE FRED. W. MUTH CO.

Package Bees and Queens--Quality Bees and Service

Progeny-Test Three-Band Italians Daughters of Stock Bred for Resistance to A. F. B.

PRICES
Queens

1 to 50 ..... $ .65
51 and up ..... .60
No extra charges for air mailing and clipping

Garon Bee Co., Donaldsonville, La.

Telephone 8614 **Telegrams, Western Union**

the Hubbard APIARIES

WRITE FOR FREE CATALOG

Quality Bee Supplies Factory Store Prices
Prompt Shipment from Stock
Satisfaction Guaranteed

THE HUBBARD APIARIES
Manufacturers of Bee Supplies
ONSTED, MICHIGAN

QUEENS -- ITALIAN STOCK -- QUEENS

We are breeding queens to meet a standard and not producing them to meet a price. Don't let the price difference confuse you. Crop results should be your ultimate objective.

Prices: 1 - 49, 85c; 50 - 99, 80c; 100 up, 75.

BESSONET BEE COMPANY, Donaldsonville, La.

Queens - ITALIAN - Queens

Daughters of Resistant Stock
QUEENS
Caucasians mated to Italian drones

1 to 24, ... $ .90
25 to 99, ... .85
100 or more, ... .80

Over 25 years a shipper.
FREE circular. 10% down books your order for package bees for 1944.

BLUE BONNET APIARIES
R. 1, Box 70, MERCEDES, TEX.

CAUCASIANS

Extra gentle, prolific, long tongue, little inclined to swarm, dependable workers — 10% to 40% ahead of average Italians. Foundation stock from mountainous region of Terek, Caucasus.

CARNIOLANS

Build up rapidly even during unfavorable springs. Prolific at all times, very gentle, best of workers. 32nd year with them. August is a good time to requeen.

Prices: Untested queens, 1 to 5, 80c each; 6 or more 75c each. Tested $1.50 each. By Air Mail 5c extra per queen.

ALBERT G. HANN, Glen Gardner, New Jersey

"Root Quality Bee Supplies in Michigan"

Write us for prices on quantity lots.

We have a large stock of new

ECONOMY LINE

glass jars, 8 oz. 16 oz. and 2½ lb. size. 5 lb. and 10 lb. glass jugs with Mason size white caps.

ALSO STILL HAVE

Several thousand cases

MODERNISTIC HONEY JARS

We believe every beekeeper should keep his local market supplied with honey as this saves transportation. If you have any surplus of honey sell it to us at ceiling prices. Then when the war is over you will have a well established local market. We are prepared to move surpluses out of Michigan as I personally shipped out 24 rail cars during the past four years.

M. J. BECK

Lansing, 1, Mich. 510 N. Cedar

Postoffice Box 7

JENSEN'S QUEENS

Are super-super—meaning they produce colonies that put honey in the supers. How do we know? Well, right now we have yards that were packaged five and six times in April and May, that now average fully 100 lbs of honey per colony, (July 10th). Not bad, we think. It's almost unbelievable the way they keep coming back after each shaking. The QUALITY is Bred In. "Magnolia State" strain Italians.

Prices balance of season:
1 - 24, 80c each; 25 - 100, 75c each; 101 and up, 70c each.
Tested queens, $1.25.

JENSEN'S APIARIES

Macon, Miss.

THE BEEKEEPERS MAGAZINE
$1.00 a Year

Is the new rapidly growing bee journal. Established 1938. It is now one of the three leading beekeeping publications.
Single copy current issue, 10c.
Combined with Gleanings in Bee Culture, it makes the Perfect Pair. Both magazines, one year, $1.75.

THE BEEKEEPERS MAGAZINE
3110 Piper Rd. Rt. 5, Lansing, Mich.

TALKS TO BEEKEEPERS

(Continued from page 488)

twenty-five colonies. The picture on page 488 shows an outfit that may be used to advantage. It is simple yet efficient. The room used for extracting should have windows screened in order to keep out robber bees.

The extractor should be placed on a stand of some sort and anchored down securely so that it does not rock while in motion.

Combs of approximately the same weight should be selected so that the machine may not be thrown out of balance. After combs are uncapped with a hot knife, they are placed in the baskets of the extractor. A part of the honey is thrown out of one side of the combs which requires only a few revolutions, then the combs are reversed and all of the honey is thrown out of the opposite sides. The combs should be reversed again and all of the honey thrown out of the first side. If all the honey were thrown out of the first side, the weight of the honey in the opposite sides of the combs might break the mid-ribs of the combs. The extractor should not be turned too rapidly at first until some of the honey is removed. Good combs may be broken due to carelessness.

Strain Honey Thoroughly

Commercial beekeepers with large extractors use pumps for pumping the honey as it comes from the extractor into the honey tank. The small operator with a hand extractor simply runs the honey from the extractor into a bucket and then empties the bucket of honey into a small honey tank covered with two thicknesses of cheesecloth for straining the honey. The cheesecloth may be fastened over the top of the small honey tank by means of a wire tightened with a pair of pliers, or a small support for holding the cheesecloth in place may be used.

Beekeepers should avoid heating honey to a high temperature as this may destroy the delicate aroma or flavor of the honey. Honey that is sold immediately for local consumption, to customers who bring their own containers, need not heat the honey, especially during warm weather.

Buy U. S. War Bonds and Stamps

IOWA PRODUCES HONEY AS WELL AS TALL CORN

(Continued from page 462)

this time of sugar rationing, they help me in this way: They pollinize the blossoms of my home orchard trees and I find that they help other crops also. I cut my alfalfa and keep the first cutting for hay. The second crop is cut for the seed. Since I got the bees I have found I get more seed," the man replied.

My conclusion is that too many farmers are overlooking one dependable source of income, the production of honey, which may be carried on as a sideline to general farming. The cost of starting with bees is small. Added to this is the increase of farm crops. The work involved in taking care of bees is so little it is negligible.

Edmond, Oklahoma.

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YORK'S

PACKAGE BEES and QUEENS

Quality Bred Italians

Young Laying Queens,	$ .90 each
Tested Queens,	1.80 each
2-lb. pkgs. bees with queens,	2.95 each
3-lb. pkgs. bees with queens,	3.80 each

Queens by air mail, add 5c per queen.

Queens clipped, add 25c per queen.

Queenless packages, deduct price of queen.

YORK BEE CO.

Jesup, Georgia, U. S. A.

(The Universal Apiaries)

HONEY WANTED

Top Prices Paid

Cans furnished or exchanged.
Money laid down when honey picked up

JON M. HOWELL

Producer and Packer

Hutchinson, Kansas

TOO LATE TO CLASSIFY

WANTED—One capping knife and honey-tank. D. M. Wells, 1365 Oak St., N. W., Washington, D. C.

TAKE OFF HONEY easily with Beegone—pint, express paid. $1.00. Honey House, Adrian, Mich.

WANTED two frame reversible extractor. State price, condition and make. Chas. Crockatt, 5851 Newark Ave., Chicago, Ill.

FOR SALE—One 20-frame Root Simplicity Extractor, good as new, only a few batches of combs extracted, 12" pulley, without motor, $85. T. H. Harvey, Clear Fork, W. Va.

FOR SALE—900 almost new, baby nuclei, complete with 2 combs each, also 400 standard nuclei in good condition, made of heart cypress, all at reasonable price. Health certificate furnished at time of sale. —The V. R. Thagard Co., Greenville, Ala.

BUY U. S. WAR BONDS AND STAMPS

Don't let ANYONE tell yo

TO listen to some folks, you'd think a Beekeeper had an easy job, that, as the old adage said: "Bees work for nothing and board themselves."

The same kind of loose conversation is going around these days with respect to the marketing of honey.

How wrong such folks are! You and we both know that the producing of honey and its marketing are highly specialized undertakings not learned quickly overnight.

It has taken a quarter century to build our large honey market

The marketing of honey is vastly different from the marketing of other food specialties. It requires a fund of detailed knowledge of the complicated and unique problems of this business which only long experience can teach.

Today, of course, anyone can sell all the honey he can get. But, when the war ends and conditions return to normal, honey again will need to be sold to the public by the same painstaking and arduous methods with which, through a quarter century, we have built America's largest honey demand.

For twenty-five years we have concentrated upon the expert blending of choice orange blossom, sage and white clover honey for the consuming public.

Through these long years we have invested literally hundreds of thousands of dollars in newspaper, radio and recipe book advertising to broaden honey's uses in the home.

Thus, it is not mere chance that today our famous brand, GOLDEN BLOSSOM HONEY, dominates the great Eastern area, the largest honey-consuming area in the land.

you our jobs are EASY!

To bring this about took time and lots of it . . . just as it has taken time and much effort to develop our heavy honey bulk sales to the baking industry, the candy industry, the tobacco industry and others.

All we ask is enough honey to supply normal customers

Some buyers are now out after more than five times the amount of honey they have heretofore required. But, emphatically, this is not our policy. We do not seek to buy in excess of actual needs. Our sole purpose is to purchase only enough honey to supply our regular . . . not new . . . customers adequately and so keep the normal market alive and growing. We ask not one pound more!

Isn't this a fair policy, a policy in the best interest of the entire honey industry, a policy that deserves your wholehearted support?

If all this makes sense, we bespeak your immediate cooperation. Please let us know right away how much honey from this year's crop we may expect from you.

Send us your samples now

Please rush us samples of your honey as soon as your crop is ready. We will pay top ceiling prices, in cash. We prefer carload lots, but from nearby points will accept lesser amounts. All prices effective at shipping points. Cans returned in accordance with OPA Order No. 275, if desired.

THE JOHN G. PATON COMPANY, INCORPORATED

630 FIFTH AVENUE, NEW YORK 20, N.Y.

WANTED!

MILLIONS OF POUNDS OF HONEY BY H. J. HEINZ COMPANY

By selling your crop to Heinz, you can help build up the future of the honey industry and prevent a price collapse after the war!

H. J. Heinz Company, manufacturers of the famous 57 Varieties, is now in the honey business.

For the first time, honey will get the benefit of large scale national advertising—and a coast-to-coast promotional campaign by 1,500 Heinz salesmen.

The brand name used will be Lake Shore Honey, distributed by Heinz. We estimate that we will require many millions of pounds a year to meet the demand we expect to create.

Puts the Entire Industry on a Sounder Basis

You know that when sugar is scarce, honey prices go up. When sugar becomes plentiful again, honey prices go down.

One important reason is that until now there has been no major stabilizing influence. No single packer has had the means and facilities for creating and maintaining a steady demand for honey, regardless of sugar supplies. Nor has there been a packer with the manpower necessary to do a real selling job on honey. As a result, in normal times, honey is one of America's "forgotten foods."

Heinz plans to change this picture. Heinz advertising will educate the public that honey is NOT JUST A SUGAR SUBSTITUTE — that it is a health food with all the advantages of sugar or other sweets. Mothers will be told that recent research has proved that honey is ideal for infant feeding. In its first nine months of life, the average child consumes 30 pounds of honey on a modern honey diet.

You Can Help Stabilize Honey Prices

If you agree that Heinz advertising and merchandising will be a good thing for honey—if you feel that a packer with an established quality reputation can be a stabilizing factor for the whole industry and help prevent a serious price collapse after the war—then you will undoubtedly see the wisdom of cooperating with Heinz.

You can help us build a business which will be good for your business by selling your coming crop to us.

Use the coupon below to tell us when your crop will be ready and how much you expect to produce. It is understood that sending in this coupon does not obligate you or commit you in any way.

But remember—we can help you—you can help us. Let's get together. Send in the coupon today.

H. J. HEINZ COMPANY
PITTSBURGH, PA.

57

CLIP AND MAIL THIS COUPON TODAY!

H. J. HEINZ COMPANY, Dept. GB-5
Pittsburgh, Pa.

I expect to produce_____lbs. of honey in 1943. It will be ready about_____

Name_____

City_____

State_____

Sending in this coupon does not obligate me in any way.

For Clean, Bright, Tight Honey Cans

--Call the Nearest Continental Distributor

PHOENIX, ARIZ.
Quick Seed & Feed Co.
Western Seed, Feed & Honey Co.

TUCSON, ARIZ.
W. C. Collier

ALAMEDA, CALIF.
F. E. Boyden-Hansen Co., Ltd.

ALHAMBRA, CALIF.
B-Z-B Honey Co.

LONG BEACH, CALIF.
J. E. Delgado & Co.

LOS ANGELES, CALIF.
Bryant & Cookinham, Inc.
California Honey Co.
Diamond Match Co.
Hamilton & Co.
Los Angeles Honey Co.

SAN FRANCISCO, CALIF.
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Login Corporation

SPRING VALLEY, CALIF.
Dorwin L. Baker

VALLEY CENTER, CALIF.
A. K. Whidden

DENVER, COLO.
Martin Brothers Company
Attn: R. J. Chadbourne

MONTROSE, COLO.
Western Colorado Honey Exch.

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DECATUR, IND.
The Brock Store

COUNCIL BLUFFS, IOWA
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SIOUX CITY, IOWA
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Miller Honey Co.

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4622 WEST NORTH AVENUE, CHICAGO, ILL.
WHEELING · JERSEY CITY · LOS ANGELES · ST. LOUIS · CINCINNATI

QUEENS!

Italians or Caucasians

BE SURE AND REQUEEN THIS SUMMER OR EARLY FALL. IT HELPS INSURE A BETTER CROP AND LESS SWARMING NEXT SEASON.

PRICES
(Mated)

Lots of	
1 to 24	**$ .75**
25 to 99	**.70**
100 to 499	**.65**

Tested Queen—Double price of Untested
Clipped or by Air Mail at no extra cost

THE STOVER APIARIES
Mayhew, Miss.

HONEY CONTAINERS

Glass and Tin

WRITE FOR PRICES

We Are in the Market for Beeswax

Notify us when ready and we will give you shipping instruction.
We pay highest market price possible.

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CHICAGO, 10, ILL.

A. I. Root Co. of Indianapolis.
121 N. Alabama
INDIANAPOLIS, 4, IND.

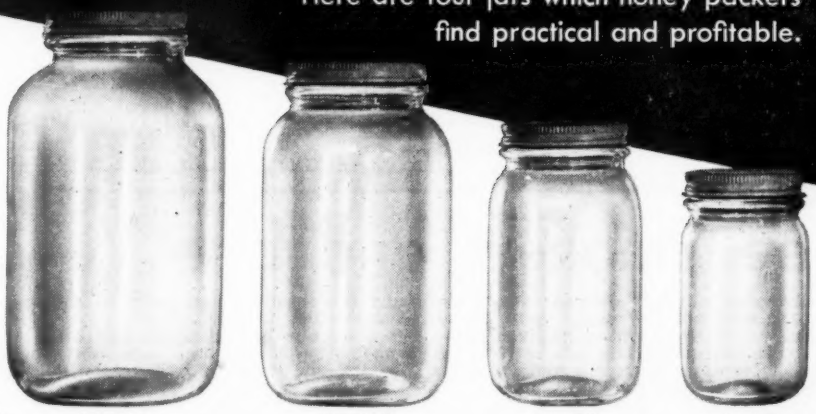
A. I. Root Co. of Syracuse.
Midland Ave. and Tallman St.
SYRACUSE, N. Y.

The A. I. Root Co. of Iowa.
COUNCIL BLUFFS, IA.

The A. I. Root Co., 12 W. 21st St., New York, N. Y.

HAZEL-ATLAS STANDARD HONEY JARS

Here are four jars which honey packers find practical and profitable.



No. 6764 34 oz. | No. 6752 22¾ oz. | No. 6741 11½ oz. | No. 6736 6¼ oz.

Light weight, good looking, ample label space, easy to handle. *Order by number today.*

HAZEL-ATLAS GLASS CO., Wheeling, W. Va.

BETTER BRED QUEENS Three-banded Italians

Prepare for next year's crop, by requeening with our better bred stock. They have been tried by thousands and have proved satisfactory. Any quantity. 60c.

CALVERT APIARIES, CALVERT, ALABAMA

2 Years $1.50

American Bee Journal—monthly: published and edited by beekeepers for beekeepers. Full of pictures and tips on care of bees and selling of honey.

—SAMPLE COPY FREE

$1.00 a year, 2 years $1.50 in U. S. and Canada. Combined with Gleanings in Bee Culture, both magazines, **ONE YEAR, $1.75.** This offer good only in the United States.

Address—

American Bee Journal, Hamilton, Ill.

KELLEY—"The Bee Man"

QUEENS!

100 queens daily. Three-banded Italians. Reared on our bee farm and shipped daily from Paducah.

1 to 24	$ .75 each
25 to 99	.70 each
100 and up	.65 each

We will accept beeswax in trade at the highest ceiling prices.

The Walter T. Kelley Co., Paducah, Ky.

Manufacturers of Bee Supplies

Bee Smokers and Bee Veils!

By diverting material allowances to these two indispensable items early in the season, we have been able to supply them in normal quantities.

On March 6th, the WPB authorized increased production on extractors and some other metal bee supplies, from 38% to 100%, as of 1940-'41. At this late date, with the difficulty in securing materials and the labor shortage, the situation will not be much improved, in time for the 1943 crop.

The bulk of all bee supplies are bought and honey gathered during the first six months of the year. Even under normal conditions, the manufacturer must plan his production from six to ten months in advance of the active season.

A. G. Woodman Co., Grand Rapids, Michigan

Wanted
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American Honey Institute

MADISON, 3, WISC.

U. S. GOVERNMENT REPORT
Information From Producing Areas
(Period June 24 to July 7)
SUMMARY

Weather during the first half of July was very favorable for both honey plants and bee activity in nearly all sections of the country. Except for the Southwest moisture conditions continue favorable for plant growth although in Ohio and parts of the far Southeast excessive rainfall has cut nectar secretion. In the Northeast, North Central and Plains areas the clover flow is now at its height, and good surpluses are being built up in most States. The heavy rainfall of the spring and early summer over the clover area put plants in unusually good condition. In the Northern states basswood is now blooming, but in most areas the bloom has been below normal and no large amount of Basswood honey have been stored. A fairly good surplus is being made in Colorado, but little honey has been stored to date in the other States of the Intermountain Region. Due to the late spring in this area many colonies have just built up to surplus storing strength. The sage and buckwheat flow in Southern California is about average, while the honey flow in central and northern California is currently running a little less than normal. Extracting is quite general in the Southeast, Southwest and in southern California. Little clover honey is yet ripe and about the only extraction of this honey to date has been for local consumption, except in Louisiana where clover honey has been moving for several weeks.

Buyers have been unusually active in all parts of the country in attempts to contract the 1943 crop at ceiling levels. Little attention is being paid by buyers to flavor or color of honey, ceiling prices being bid for nearly everything except the very poorest grades. An unusual number of sales by producers to local retailers and consumers are being reported. This has limited the quantities of honey moving to regular wholesalers and packers in many areas. Considerable beeswax, mostly in small lots, is moving to market in all sections of the country. Practically all beeswax is moving at the ceiling of 41½c cash, and 43½c in trade f. o. b. to beekeepers. Labor shortage in nearly all sections is hampering large commercial beekeepers in the movement of their bees to new locations and also in extracting of the new crop.

Monthly Report of Honey Producers

Prices of extracted honey formerly carried on this page have been omitted since in time of shortage all prices tend to equal the maximum prices for honey set by the Office of Price Administration under Maximum Price Regulation No. 275 and amendment 4. For these Regulations refer to the January and May issues of Gleanings. Also see the June and July issues.

For more detailed information contact your local Regional Office of O.P.A. or write Washington direct.

Early in the month of July we sent a questionnaire to honey producers asking them to answer the following questions: How is honey now moving on the market in your locality? Give answer in one word, as slow, fair, or rapid. How does the number of colonies that are in condition to store surplus honey this season compare with the number of such colonies last year? Give answer in per cent. What is the condition of the honey plants at this time in your locality as compared with the average? Give answer in per cent. What is the per cent of winter and spring loss of colonies (if any) in your locality? Give answer in per cent. What is the present condition of the colonies in your locality as compared with normal? Give answer in per cent. The answers returned are tabulated as follows:

Date Rec. July	State	Name	To Grocers Comb per case	To consumers Comb	Movement	No. of col.	Con. of Plants	Pct. of loss	con. of colo.
9	S-Ala.	(J. C. Dickman)		.30	Fair	80	100	25	100
12	B. C.	(A. W. Finlay)			Out		90	20	100
9	S-Calif.	(L. L. Andrews)		.35	Rapid	100	75	10	100
9	SE-Colo.	(Otis E. Adcock)			Rapid	100	100	5	100
12	E-Conn.	(Allen Latham)		.30	Fair	75	100	20	75
9	S-Fla.	(C. C. Cook)			Rapid	100	100	25	100
10	C-Fla.	(Harry Hewitt)			Fair	100	100	6	100
9	SE-Ga.	(J. J. Wilder)			Rapid	65	100	20	100
13	NC-Ills.	(A. L. Kildow)				100		18	100
13	S-Ills.	(Carl Killion)				75	80	21	75
6	NC-Ind.	(T. C. Johnson)				75	100	20	90
7	NW-Ind.	(E. S. Miller)			Out	75	100	25	95
8	W-Iowa	(E. G. Brown)			Rapid	100	100	15	95
8	N-Mich.	(Ira D. Bartlett)			Out	50	100	25	60
10	E-Mich.	(L. S. Griggs)		.25	Fair	75	100	35	90
12	C-Mich.	(Floyd Markham)				85	100	20	90
8	C-Mich.	(E. D. Townsend)				80	110	20	100
13	W-Minn.	(B. L. Morehouse)			Fair	90	110	20	85
13	W-N. M.	(C. A. Baltzley)			Rapid	100	100	5	100
13	W-N. Y.	(Adams & Myers)		.35	Good	110	100	15	100
7	NW-N. Y.	(Geo. B. Howe)			Fair	95	100	10	95
6	C-N. Y.	(F. W. Lesser)			Out	90	100	20	80
12	NW-N. C.	(C. S. Baumgarner)			Slow	50	100	50	50
9	SE-N. C.	(W. J. Martin)			Fair	90	100	5	100
10	C-Ohio	(R. D. Hiatt)			Out	85	100	12	90
7	C-Penn.	(Harry Beaver)			Out	100	100	10	100
8	SE-Pa.	(D. C. Gilham)	5.00	.30	Fair	70	90	30	90
8	C-Tenn.	(J. M. Buchanan)		.35	Fair	100	90	1	100
10	C-Texas	(T. A. Bowden)			Rapid	70	90	25	100
7	S-Texas	(J. N. Mayes)			Rapid			10	Good
12	S-Texas	(H. B. Parks)			Rapid	100	100	1	100
12	W-Utah	(Wm. Moran)				100	70	3	60
16	S-Va.	(T. C. Asher)	4.50	.30	Fair	65	50	8	60
8	SE-Wisc.	(N. E. France)			Fair	110	100	95	100

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Reshipping case of 12—2½-lb.	.42	11 lb.
Reshipping case of 6—5-lb.	.67	10 lb.

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In Bulk	.31 each

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